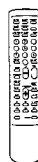
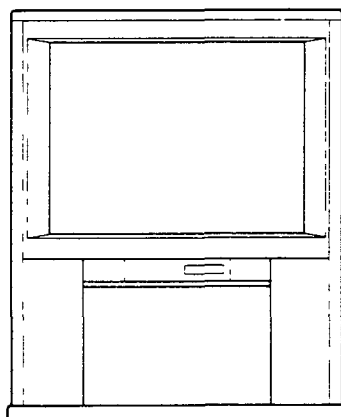


# KV-32TW76

## RM-Y102

## SERVICE MANUAL

*US Model*  
Chassis No. SCC-E54J-A



# LN-1 CHASSIS

MODELS OF THE SAME SERIES	
KV-32TW76	
KV-32TW75	
KV-32TS20/32TS35	

### SPECIFICATIONS

**Television system** American TV standards

**Channel coverage** VHF: 2 – 13  
UHF: 14 – 69  
Cable TV: 1 – 125

**Picture tube** Microblack™ Trinitron® tube  
**32-inch picture measured diagonally**  
34-inch picture tube measured diagonally

**Antenna** 75-ohm external antenna terminal for VHF/UHF

**Input** VIDEO and S VIDEO  
S VIDEO IN (S terminal)  
Y: 1 Vp-p, 75-ohms  
unbalanced, sync negative  
C: 0.286 Vp-p (Burst signal),  
75-ohms  
Video (phono jacks): 1 Vp-p,  
75-ohms unbalanced,  
sync negative  
Audio (phono jacks): 500 mVrms  
(100% modulation)  
Impedance: 47 kilohms

**Output** AUDIO OUT (VARIABLE) (phono jacks)  
More than 408 mVrms at the  
maximum volume setting (variable)  
Impedance: 5 kilohms

**Speaker output** 5 W x 2

**Power requirements** 120 V AC, 60 Hz

**Power consumption** 195W  
5W Standby mode

**Dimensions (w / h / d)** 905 x 1089 x 689 mm  
(35 3/4 x 42 7/8 x 27 1/4 in )

**Weight** 117 kg  
(257 lbs 15 oz)

#### Supplied accessories

Remote commander RM-Y102 (1) with 2 size AA  
(R6) EVEREADY batteries

#### Recommended accessories

U/V mixer EAC-66  
Connecting cable  
VMC-810/820S, YC-15 V/30 V, RK-74A

Design and specifications are subject to change without notice.

**TRINITRON® COLOR TV**  
**SONY®**



**(CAUTION)**

**SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.**

**WARNING!!**

**AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.  
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.**

**SAFETY-RELATED COMPONENT WARNING !!**

**COMPONENTS IDENTIFIED BY SHADING AND MARK  $\Delta$  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.**

## SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

### HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a coldwater pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

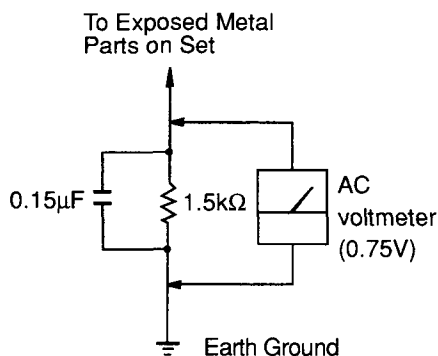


Fig. A. Using an AC voltmeter to check AC leakage.

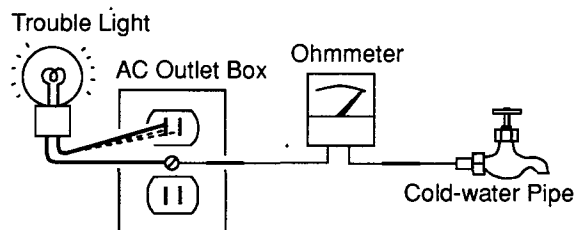


Fig. B. Checking for earth ground.

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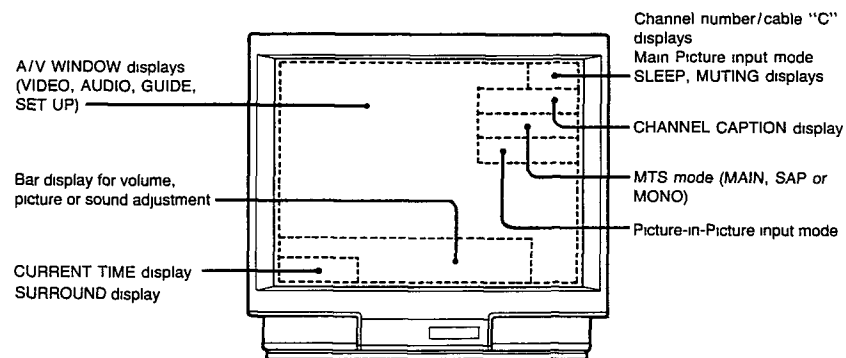
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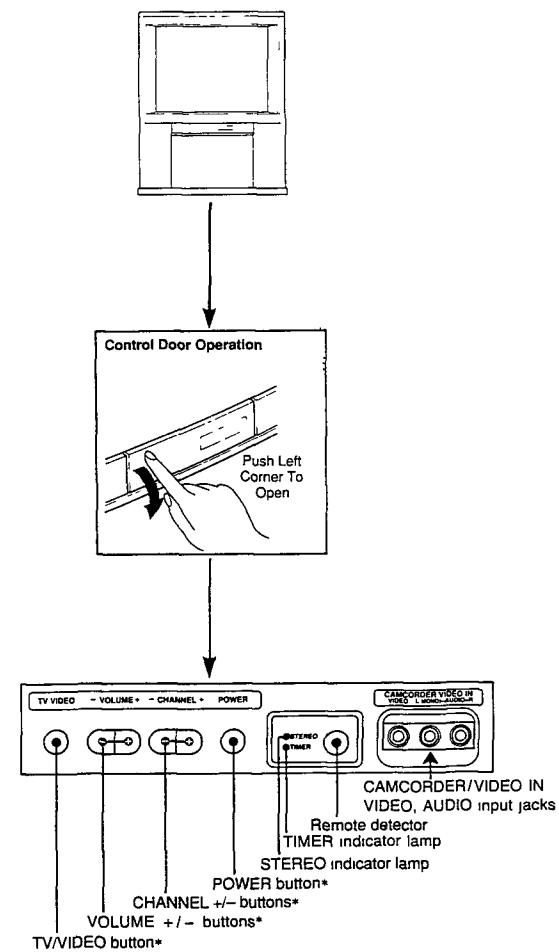
## SECTION 1 GENERAL

## 1-1. LOCATING THE CONTROLS

## Screen Displays

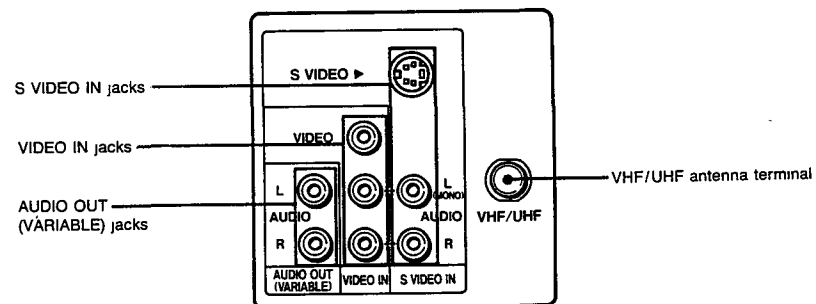


### Front Panel

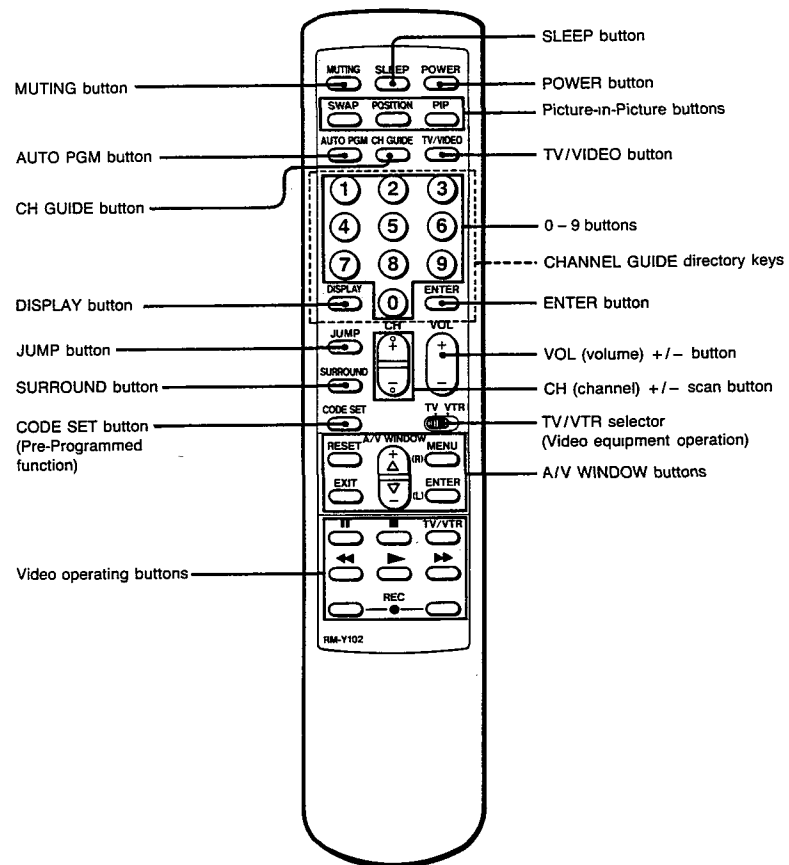


\* Buttons with the same function are also located on the Remote Commander.

## Rear Panel



## Remote Commander

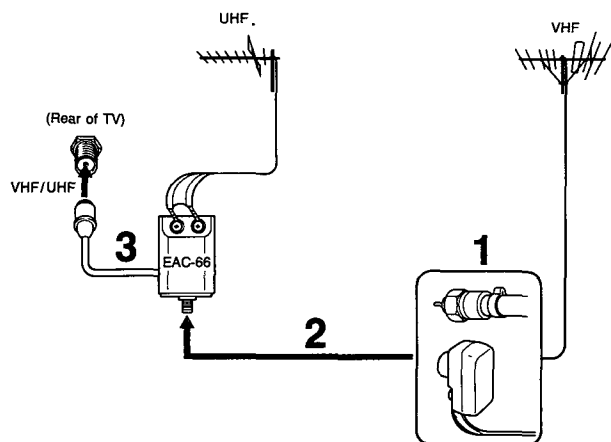


## 1-2. CONNECTING TV ANTENNA/CABLE

### Connecting both VHF and UHF antennas

Use the EAC-66 U/V mixer (not supplied).

- 1 Prepare the VHF antenna end using the appropriate connector (p. 12).
- 2 Connect the cables to the mixer.
- 3 Attach the mixer to the VHF/UHF terminal.



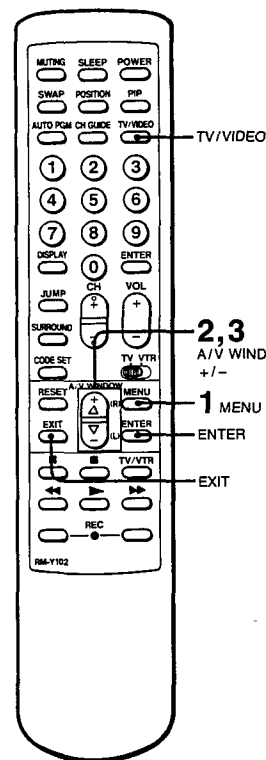
#### When the U/V mixer is used

Snow and noise may appear in the pictures of the cable TV channels over 37 (W+1).

## 1-3. TURNING THE CABLE MODE ON OR OFF

All of the controls are on the Remote Commander.

If you have cable connected to your TV, follow the steps below to turn the cable connection on or off. Cable mode is preset to ON when you use your TV for the first time; turn cable OFF to preset or watch VHF or UHF channels.

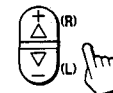


- 1 Press MENU to display the following screen.



A/V WINDOW  
▶VIDEO  
AUDIO  
GUIDE  
SET UP  
USE [▲▼] & [ENTER].

- 2 Press the +/- button to select SET UP



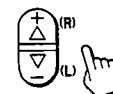
A/V WINDOW  
VIDEO  
AUDIO  
GUIDE  
▶SET UP  
USE [▲▼] & [ENTER].

Press ENTER.



SET UP  
▶CURRENT TIME SET  
CHANNEL CAPTION  
CHANNEL ERASE  
CHANNEL ADD  
CABLE OFF

- 3 Press +/- button and ENTER to select CABLE.



SET UP  
CURRENT TIME SET  
CHANNEL CAPTION  
CHANNEL ERASE  
CHANNEL ADD  
▶CABLE OFF

Press the +/- button and ENTER to select ON or OFF alternately.

SET UP  
CURRENT TIME SET  
CHANNEL CAPTION  
CHANNEL ERASE  
CHANNEL ADD  
CABLE ON  
USE [▲▼] & [ENTER].



SET UP  
CURRENT TIME SET  
CHANNEL CAPTION  
CHANNEL ERASE  
CHANNEL ADD  
CABLE OFF  
USE [▲▼] & [ENTER].

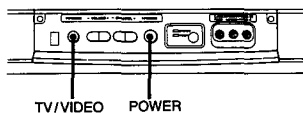
To return to TV mode.  
Press EXIT.

#### Notes

- You cannot set CABLE ON/OFF while the TV is in VIDEO mode. Before setting, select TV mode by pressing TV/VIDEO.
- The menu will be cancelled automatically after 10 seconds if you do not push any buttons during that time.

## 1-4. PRESETTING TV CHANNELS

### Presetting TV Channels Automatically



**1** Press POWER on the TV or the Remote Commander to turn the TV on.

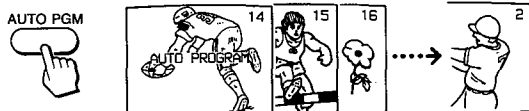


**2** Turn the cable connection on or off, depending on if you want to preset cable or VHF/UHF channels.

(FOLLOW THE STEPS ON P. 14)

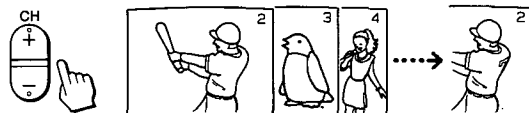
If "VIDEO" or "S VIDEO" is displayed on the screen, press the TV/VIDEO button on the TV or the Remote Commander so that a channel number appears.

**3** Press AUTO PGM.



"AUTO PROGRAM" is displayed on the screen and receivable channels (other than the channels already preset) will be preset in numerical sequence. The channels previously preset remain in the TV's memory. When no more channels can be found, the programming stops and the lowest numbered channel is displayed.

**4** Press CH +/- to check or view preset channels.



Channels that can be received on this TV:

VHF: 2 — 13  
UHF: 14 — 69  
Cable: 1 — 125

To erase unnecessary channels, or to add channels that could not be preset automatically because their signal strength was too weak, follow the steps in "Erasing Unnecessary Channels" and "Presetting Only Desired Channels"

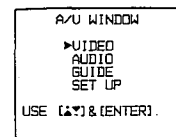
### Erasing Unnecessary Channels — CHANNEL ERASE

Use this feature to erase non-receiving channels from the channel scan memory.

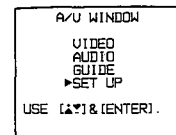
#### Note

You cannot use CHANNEL ERASE while the TV is in VIDEO mode. Before erasing channels, select TV mode by pressing TV/VIDEO.

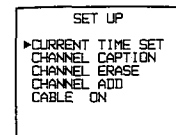
**1** Press MENU to display the following screen.



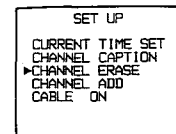
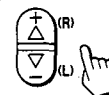
**2** Press the +/- button to select SET UP



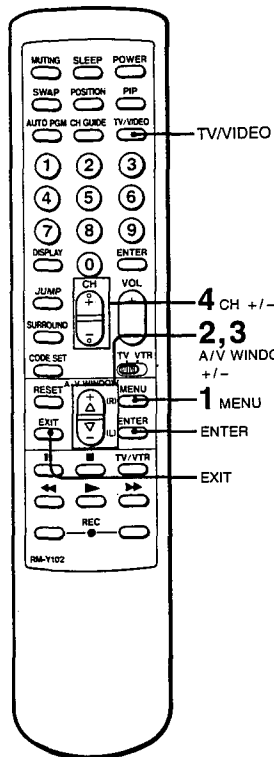
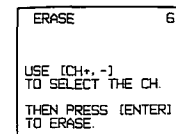
Press ENTER.



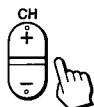
**3** Press the +/- button to select CHANNEL ERASE.



Press ENTER.



**4** Press the CH +/- button to select the channel you want to erase.



ERASE 8

USE [CH+/-] TO SELECT THE CH.  
THEN PRESS [ENTER] TO ERASE.

Press ENTER.

A "-" appears before the channel number, showing that the channel has been erased from the channel scan memory.



ERASE - 8

USE [CH+/-] TO SELECT THE CH.  
THEN PRESS [ENTER] TO ERASE.

The next time you press the CH +/- buttons, channel 8 will be skipped.  
Repeat step 4 to erase other channels.

**To return to TV mode**  
Press EXIT.

**Note**

When you erase a VHF or UHF channel, the cable TV channel with the same number is also erased, and vice versa.

**Cable TV channel chart\***

Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to the chart below.

Number on this TV	Corresponding cable TV channel
1	A-8
5	A-7
6	A-6
14	A
15	B
16	C
17	D
18	E
19	F
20	G
21	H
22	I
23	J
24	K
25	L
26	M
27	N
28	O
29	P
30	Q
31	R
32	S
33	T
34	U
35	V
36	W
37	W+1
38	W+2
39	W+3
93	W+57
94	W+58
95	A-5
96	A-4
97	A-3
98	A-2
99	A-1
100	W+59
101	W+60
102	W+61
123	W+82
124	W+83
125	W+84

\* This designation of cable TV channels conforms to the EIA/NCTA recommendation.

Check with your local cable TV company for more complete information on the available channels.

**Presetting Only Desired Channels — CHANNEL ADD**

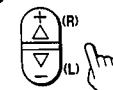
Use this feature to add channels one by one to the channel scan memory.

**Note**

You cannot use CHANNEL ADD while the TV is in VIDEO mode. Before adding channels, select TV mode by pressing TV/VIDEO.

**1-2** (FOLLOW STEPS 1 & 2 ON)

**3** Press the +/- button to select CHANNEL ADD.



Press ENTER.



SET UP

CURRENT TIME SET  
CHANNEL CAPTION  
CHANNEL ERASE  
CHANNEL ADD  
CABLE ON

ADD 20

USE [0-9] & [ENTER] TO SELECT THE CH.  
THEN PRESS [ENTER] TO ADD.

**4** Press the 0 - 9 buttons to select the channel you want to add. For example, to add channel 25, press 2, 5 and ENTER.



Press ENTER again.

A "+" appears before the channel number, showing that the channel has been added to the channel scan memory.



ADD 25

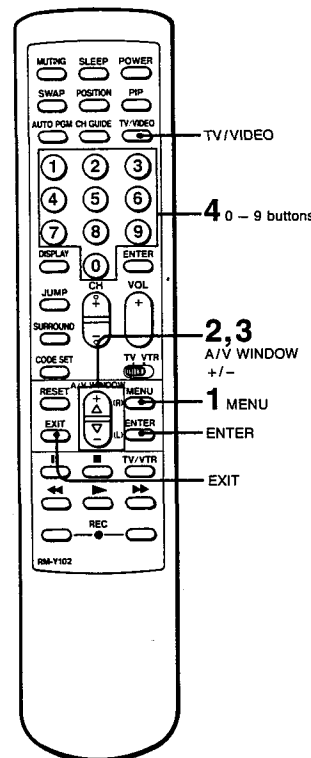
USE [0-9] & [ENTER] TO SELECT THE CH.  
THEN PRESS [ENTER] TO ADD.

ADD + 25

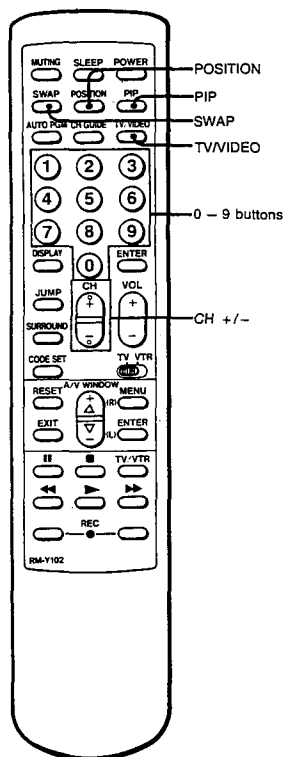
USE [0-9] & [ENTER] TO SELECT THE CH.  
THEN PRESS [ENTER] TO ADD.

Repeat step 4 to add other channels.

**To return to TV mode**  
Press EXIT.



## 1-5. USING PICTURE-IN-PICTURE



With this feature, you can watch both the main picture and a video source, simultaneously, by means of a window picture.

For example, use Picture-in-Picture when you want to watch a TV program and a video source from connected equipment (VCR, video disc player, etc.) at the same time.

If you connect a VCR, you can watch two different TV programs at the same time.

### Displaying a window picture — PIP

Press PIP



Input source mode or TV channel for the main picture (display is green)

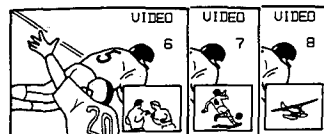
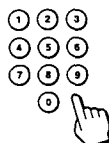
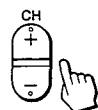


Input source mode or TV channel for the window picture (display is white)

A window picture will appear in the same input mode as the last time you used PIP

### Scanning channels in the window picture

Press CH +/- or the 0-9 buttons and ENTER.



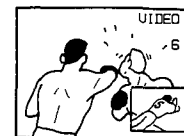
To make the window picture disappear  
Press PIP again.

### Swapping the main and window pictures — SWAP

1 Press PIP to display a window picture.

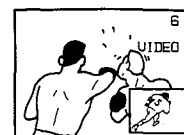


2 Press SWAP

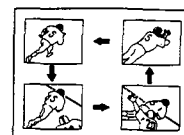


### Changing the position of the window picture — POSITION

1 Press PIP to display a window picture.



2 Press POSITION.  
Each time you press POSITION, the window picture will move counterclockwise on the screen, as illustrated below.

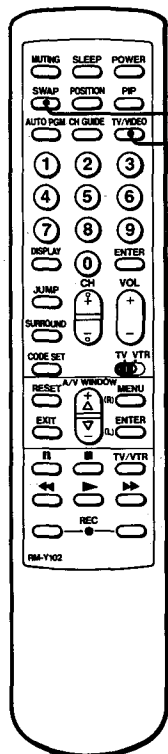


To change the input mode of the window picture

- 1 Press TV/VIDEO to change the input mode of the main picture.  
(Selects TV, VIDEO, S VIDEO in sequence)
- 2 Press SWAP to swap the main picture with the window picture.

#### Notes

- You cannot hear the sound of the window picture channel.
- If the main picture is blocked, the display "BLOCKED" will appear on the main screen, and Picture-in-Picture will not function.
- If the main picture is not receiving an image, the window picture will disappear. It will reappear when you switch to a receiving channel.
- When the main picture is black and white, depending on the TV signal some window picture images may also be black and white.
- When you turn PIP on, or when you turn the TV on with PIP mode on, the window picture will appear at the bottom right of the screen.
- Depending on the condition of the main picture's signal, the window picture may be affected.

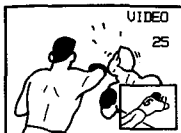


2,3 SWAP  
1 TV/VIDEO

### Displaying a VIDEO input image as a window picture

To watch VIDEO images (VCR playback or TV through a VCR tuner) using Picture-in-Picture, first select a program mode (cable or VHF/UHF) by following the steps, "Turning the Cable Connection On or Off." Then follow the steps below.

- 1 Press TV/VIDEO to select the appropriate video input mode. (Selects TV, VIDEO and S VIDEO modes in sequence)



The video image from the input mode you select will appear as the main picture.

- 2 Press SWAP so that the video input picture becomes a window picture.



- 3 Press SWAP again to change the video input picture back to the main picture.



You can only change VIDEO input modes of the main picture.

#### Note

To operate your VCR with the supplied Remote Commander,  
— "Using the Remote Commander."

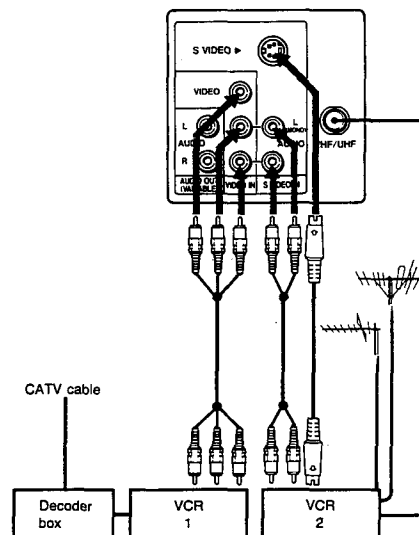
### Displaying pay cable TV as a window picture

In order to use Picture-in-Picture with pay cable TV images, make sure the connections are made as illustrated below. Select cable mode by following the steps, "Turning the Cable Connection On or Off." Then follow the steps below.

- 1-3 Follow steps 1 — 3 in "To display a VIDEO input image as a window picture".

- 4 Put your VCR on an inactive channel (CH 3 or 4).

- 5 Change pay cable TV channels with the decoder box.



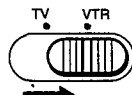
## 1-6. USING THE PRE-PROGRAMMED REMOTE COMMANDER

You can operate other video equipment that has an infrared remote detector with this supplied Pre-Programmed Remote Commander.

### Operating Sony or non-Sony Video Equipment — Pre-Programmed Function

With the supplied Remote Commander, you can operate a Sony video cassette recorder (Beta, 8mm, VHS) or multi disc player as well as most non-Sony video equipment connected to your TV by following the steps below.

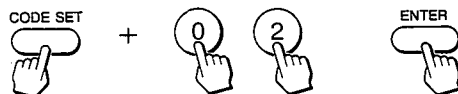
- 1 Set the TV/VTR selector to VTR.



#### Note

When the selector is set to VTR, the POWER and CH +/- buttons on the Remote Commander function as video operating buttons and cannot be used to operate the TV.

- 2 While pressing CODE SET, press the 0 - 9 buttons to enter the manufacturer's code number. For example, to operate a Sony 8 mm VCR, press 0, 2 and ENTER.



- 3 Use the video operating buttons on the Remote Commander to operate the video equipment.

#### Operating a VCR

To turn on or off Press POWER  
To change channels (when watching TV programs through the VCR's tuner) Press CH +/-

To record Press ● (2 buttons simultaneously).  
To play Press ►.  
To stop Press ■.  
To fast forward Press ►►.  
To rewind the tape Press ◄◄.  
To pause Press ■■.  
To search the picture forward and backward Press ►► or ◄◄ during playback.

#### Operating a Video Disc Player

To play Press ►.  
To stop Press ■.  
To pause Press ■■.

To resume normal playback, press again.

\*This function is effective only for CAV (standard-play disc). With CLV (extended-play disc), the TV will go into the standby mode if ■■ is pressed.

To search the picture forward and backward Keep pressing ►► or ◄◄ during playback.  
To resume normal playback, release the button.

### Manufacturers and Code Numbers (VCR)

Manufacturer	Code number
SONY	01, 02, 03, 04
CANON	05
EMERSON	22, 30, 33
FISHER	10, 11, 12, 15
FUNAI	29
GENERAL ELECTRIC	05, 08
GOLDSTAR	25
HITACHI	07, 08
JVC	16
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
MULTITECH	29
NEC	16, 23, 31
PANASONIC	05, 06
PHILCO	05, 06
PHILIPS	05, 06, 09
QUASAR	05, 06
RCA	07, 08
SAMSUNG	24, 32
SANYO	11, 15
SCOTT	21
SHARP	13, 14
SHINTOM	34
SYLVANIA	05, 06, 09
SYMPHONIC	29
TEKNIKA	28, 29
TOSHIBA	20, 21
TOTE VISION	25
ZENITH	17

The code numbers for Sony equipment are assigned as follows:

- 01 Beta, ED Beta VCR
- 02 8mm VCR
- 03 VHS VCR
- 04 Video disc player

#### For your convenience

Write the manufacturer name and code number for your equipment onto one of the supplied self-adhesive labels and affix to the Remote Commander for easy reference.

	BRAND	CODE
1		
2		
3		

#### Notes

- If more than one code number is listed for manufacturers other than Sony, try entering them one by one, until you come to the correct code for your equipment.
- If the video equipment does not have a certain function, the corresponding button on this Remote Commander will not operate.

#### Note

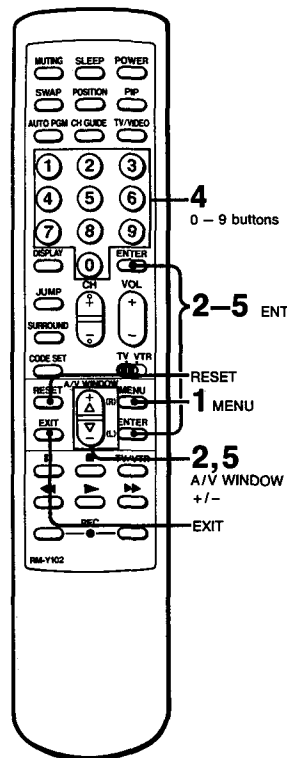
In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied Remote Commander. This is because your equipment may use a code that is not provided with this Remote Commander. In this case, please use the equipment's own remote control unit.

#### CAUTION

When you remove the batteries from the Remote Commander, all the settings will revert to the Sony Beta setting. Reset the codes by following the steps on p. 30.



## 1-7. SETTING THE CURRENT TIME



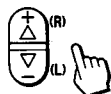
Set the current time before using the Timer-activated functions from the **GUIDE** menu.

**1** Press **MENU** to display the following screen.



A/V WINDOW  
VIDEO  
AUDIO  
GUIDE  
SET UP  
USE [▲▼] & [ENTER].

**2** Press the **+/-** button to select **SET UP**.



A/V WINDOW  
VIDEO  
AUDIO  
GUIDE  
SET UP  
USE [▲▼] & [ENTER].

Press **ENTER**.  
*CURRENT TIME SET is already selected for you.*



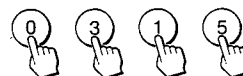
SET UP  
CURRENT TIME SET  
CHANNEL CAPTION  
CHANNEL ERASE  
CHANNEL ADD  
CABLE ON

**3** Press **ENTER**.



CURRENT TIME SET  
--:--AM  
SET THE TIME.  
USE [0-9] & [ENTER].

**4** Press the **0** - **9** buttons and **ENTER** to enter the current time. For example, to set the time at 3:15, press **0**, **3**, **1**, **5**. (You must press 4 digits.)



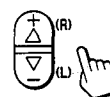
CURRENT TIME SET  
03:15AM  
SET THE TIME.  
USE [0-9] & [ENTER].

Press **ENTER**.



CURRENT TIME SET  
3:15AM  
SET AM OR PM.  
USE [▲▼] & [ENTER].

**5** Press the **+/-** button, to select **AM** or **PM** alternately.



CURRENT TIME SET  
3:15AM  
SET AM OR PM.  
USE [▲▼] & [ENTER].



CURRENT TIME SET  
3:15PM  
SET AM OR PM.  
USE [▲▼] & [ENTER].

Press **ENTER**.



CURRENT TIME SET  
3:15PM  
CURRENT TIME  
IS SET.

To clear the time setting  
Press **RESET**.

To reset the time  
Press **RESET** while in the **CURRENT TIME** screen, and repeat steps 4 and 5.

To display the time  
Set **TIME DISPLAY ON/OFF**.

To return to TV mode  
Press **EXIT**.

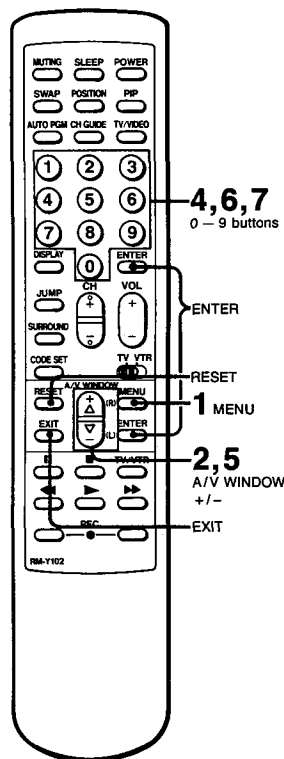
### Notes

- The internal clock of this TV operates on a 12-hour cycle. If a 24-hour cycle number (for instance, 13:00) is entered, it will be cleared when you press **ENTER**.

12:00 AM stands for midnight.  
12:00 PM stands for noon.

- All the settings including **TIME SET** will be erased if you unplug the TV, or if a power failure occurs. Reset the current time by following steps 1 - 5.

## 1-8. USING THE TIMER-ACTIVATED FUNCTIONS-GUIDE



Using the GUIDE feature, you can call up an on-screen menu giving instructions on how to use the timer-activated functions: ON/OFF TIMER, CHANNEL BLOCK, AND TIME DISPLAY ON/OFF

### Setting the ON/OFF TIMER

With this function you can set your favorite program to appear on the screen at the time that you set.

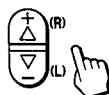
EXAMPLE: Set the timer to turn on the TV to channel 21 at 3:15 PM, for 2 hours.

**1** Press MENU to display the following screen.



A/V WINDOW  
VIDEO  
AUDIO  
GUIDE  
SET UP  
USE [▲▼] & [ENTER].

**2** Press the +/- button to select GUIDE.



A/V WINDOW  
VIDEO  
AUDIO  
GUIDE  
SET UP  
USE [▲▼] & [ENTER].

Press ENTER.  
ON/OFF TIMER is already selected for you.



GUIDE  
ON/OFF TIMER  
CHANNEL BLOCK  
TIME DISPLAY: ON

**3** Press ENTER.



GUIDE  
CURRENT TIME IS  
NOT SET  
PRESS [ENTER] TO  
SET THE TIME.

If this screen appears, follow steps 3 – 5 on pp. 32 – 33. Then begin again from step 1 on this page.

ON/OFF TIMER  
--:--AM .H CH--  
SET THE TIME.  
USE [0-9] & [ENTER].

If this screen appears, continue from step 4 on the next page.

**4** Set the time that you want the TIMER to start by pressing 0 – 9 (you must press 4 digits) and ENTER.



ON/OFF TIMER  
03:15AM .H CH--  
SET THE TIME.  
USE [0-9] & [ENTER].

**5** Select AM or PM by pressing the +/- buttons, and press ENTER.



ON/OFF TIMER  
3:15PM .H CH--  
SET AM OR PM.  
USE [▲▼] & [ENTER].

**6** Set the duration of time that you want the TV to remain on, by pressing 1 – 9 and ENTER.



ON/OFF TIMER  
3:15PM 2H CH--  
SET THE DURATION.  
USE [0-9] & [ENTER].

**7** Set the channel that you want the TV to turn on to, by pressing 0 – 9 and ENTER.



ON/OFF TIMER  
3:15PM 2H CH 21  
SET THE CHANNEL.  
USE [0-9] & [ENTER].

The following screen will appear, showing that the TIMER has been set.

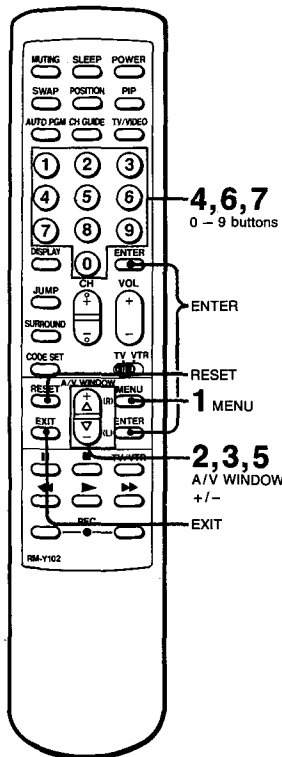
ON/OFF TIMER  
3:15PM 2H CH 21  
ON/OFF TIMER  
IS SET.

To clear the ON/OFF TIMER setting  
Press RESET.

To return to TV mode  
Press EXIT.

### Notes

- While the TIMER is set, the TIMER indicator lamp on the TV will be lit.
- One minute before the timer goes off, the "TV WILL TURN OFF" display will appear on the screen.
- If you have not set the clock correctly, the ON/OFF TIMER will not operate. "Setting the CURRENT TIME" to set the clock.
- The TIMER setting will be erased if you unplug the TV, or if a power failure occurs. Repeat steps 1 – 7 to reset the TIMER.

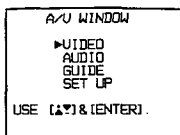


## Setting CHANNEL BLOCK

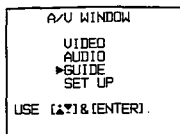
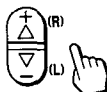
Use this function to block a channel from appearing on the screen during the preset time, for instance, to prevent children from watching undesirable programs.

EXAMPLE: Set CHANNEL BLOCK at 8:45 PM, for one hour, on channel 38.

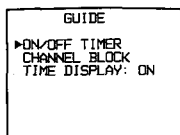
**1** Press MENU to display the following screen.



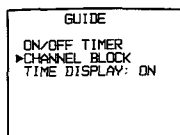
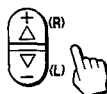
**2** Press the +/- button to select GUIDE.



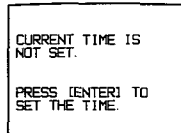
Press ENTER.



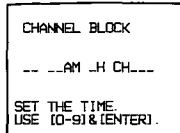
**3** Press the +/- buttons to select CHANNEL BLOCK.



Press ENTER.

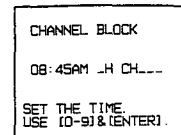


If this screen appears, follow steps 3 – 5. The begin again from step 1 on this page.

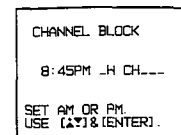
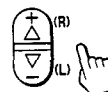


If this screen appears, proceed to step 4 on the next page.

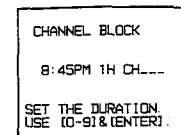
**4** Set the time that you want CHANNEL BLOCK to start by pressing 0 – 9 (you must press 4 digit) and ENTER.



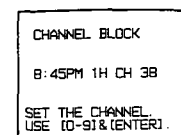
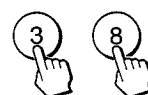
**5** Select AM or PM by pressing the +/- button, and press ENTER.



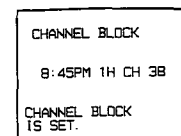
**6** Set the duration of time that you want the TV to remain blocked (up to 9 hours), by pressing 1 – 9 and ENTER.



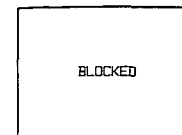
**7** Set the channel that you want to block, by pressing 0 – 9 and ENTER.



The following screen will appear, showing that CHANNEL BLOCK has been set.



If you select a channel which has been blocked, the BLOCKED screen will appear.

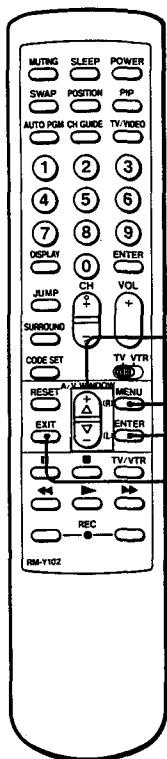


To clear the BLOCK setting Press RESET.

To return to TV mode Press EXIT.

### Notes

- If you set a new CHANNEL BLOCK by following steps 1 – 7, the original setting will be erased.
- If you have not set the clock correctly, CHANNEL BLOCK will not operate. "Setting the CURRENT TIME" to set the clock.



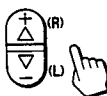
## Setting the TIME DISPLAY

**1** Press MENU to display the following screen.



A/V WINDOW  
 ►VIDEO  
 ►AUDIO  
 ►GUIDE  
 SET UP  
 USE [▲▼] & [ENTER].

**2** Press the +/- button to select GUIDE.



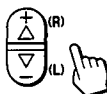
A/V WINDOW  
 ►VIDEO  
 ►AUDIO  
 ►GUIDE  
 SET UP  
 USE [▲▼] & [ENTER].

Press ENTER.



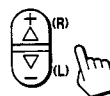
GUIDE  
 ►ON/OFF TIMER  
 CHANNEL BLOCK  
 TIME DISPLAY: ON

**3** Press the +/- button and ENTER to select TIME DISPLAY.



GUIDE  
 ON/OFF TIMER  
 CHANNEL BLOCK  
 ►TIME DISPLAY: ON

**4** Press the +/- button to select ON or OFF alternately.  
 (Display is red)



GUIDE  
 ON/OFF TIMER  
 CHANNEL BLOCK  
 TIME DISPLAY: OFF  
 USE [▲▼] & [ENTER].

GUIDE  
 ON/OFF TIMER  
 CHANNEL BLOCK  
 TIME DISPLAY: ON  
 USE [▲▼] & [ENTER].

Press ENTER.  
 The display will turn green, showing that the mode has been set.



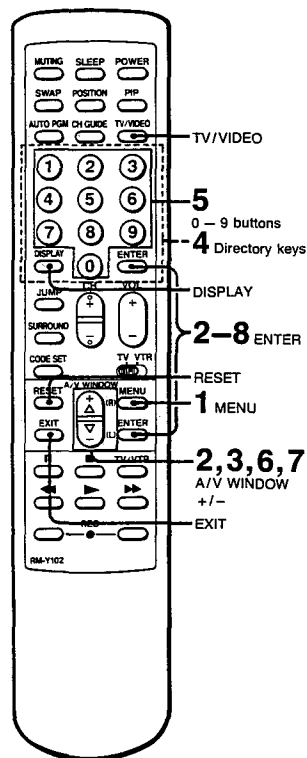
GUIDE  
 ON/OFF TIMER  
 CHANNEL BLOCK  
 ►TIME DISPLAY: ON

To return to TV mode  
 Press EXIT.

### Notes

- When TIME DISPLAY is set to ON, the time will remain on the screen.
- The menu screens will be cancelled automatically after 10 seconds if you do not push any buttons during that time.

## 1-9. USING CHANNEL CAPTION



### Captioning the channel display — CHANNEL CAPTION

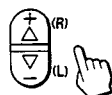
Use this feature to caption up to 12 channel number displays with the matching channel call letters. For example, caption channel 20 with ESPN.

**1** Press MENU to display the following screen.



A/V WINDOW  
VIDEO  
AUDIO  
GUIDE  
SET UP  
USE (▲▼) & [ENTER].

**2** Press the +/- button to select SET UP



A/V WINDOW  
VIDEO  
AUDIO  
GUIDE  
SET UP  
USE (▲▼) & [ENTER].

Press ENTER.



SET UP  
CURRENT TIME SET  
CHANNEL CAPTION  
CHANNEL ERASE  
CHANNEL ADD  
CABLE ON

**3** Press the +/- button to select CHANNEL CAPTION.



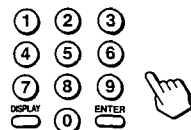
SET UP  
CURRENT TIME SET  
CHANNEL CAPTION  
CHANNEL ERASE  
CHANNEL ADD  
CABLE ON

Press ENTER.



CHANNEL CAPTION 16  
SELECT A DESIRED CH GUIDE KEY FROM (0-9), [DISPLAY] & [ENTER].

**4** Enter a directory (CHANNEL GUIDE) number for the caption by pressing one of the directory keys. For example, to set caption number 4, press 4.



CHANNEL CAPTION 16  
4  
USE (0-9) & [ENTER] TO SELECT THE CH.

**5** Select the channel you want to caption by pressing 0 - 9 and ENTER.



CHANNEL CAPTION 20  
4  
SELECT THE LETTER. USE (▲▼) & [ENTER].

**6** Select the first letter by pressing the +/- button and ENTER. Press + to advance alphabetically; press - to go back.



CHANNEL CAPTION 20  
4E  
SELECT THE LETTER. USE (▲▼) & [ENTER].

**7** Select each remaining letter by repeating step 6. (For a 3-letter caption, leave a space by pressing ENTER only.)



CHANNEL CAPTION 20  
4ESPN  
PRESS [ENTER] TO CONTINUE.

**8** To set the next caption, press ENTER again, and repeat the steps from step 4.



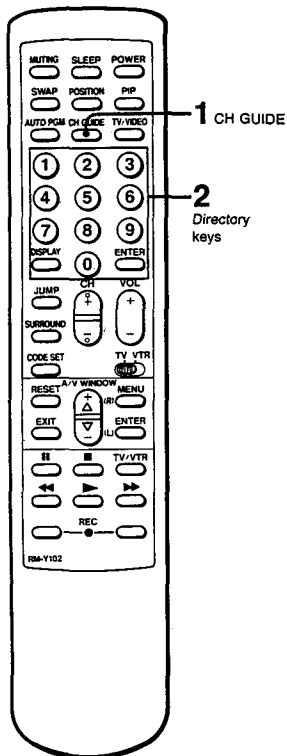
CHANNEL CAPTION 20  
4ESPN  
SELECT A DESIRED CH GUIDE KEY FROM (0-9), [DISPLAY] & [ENTER].

To erase unneeded captions  
Call the caption setting screen by following steps 1 - 4, and press RESET.

To return to TV mode  
Press EXIT.

#### Notes

- You cannot use CHANNEL CAPTION while the TV is in VIDEO or S VIDEO mode. Before setting captions, select TV mode by pressing TV/VIDEO.



### Viewing the captioned channels — CHANNEL GUIDE

Use this feature to display the captions you have set, and to select a channel directly for viewing.

- 1 Press CH GUIDE.  
A directory appears, corresponding to the directory keys on the Remote Commander.

CH GUIDE



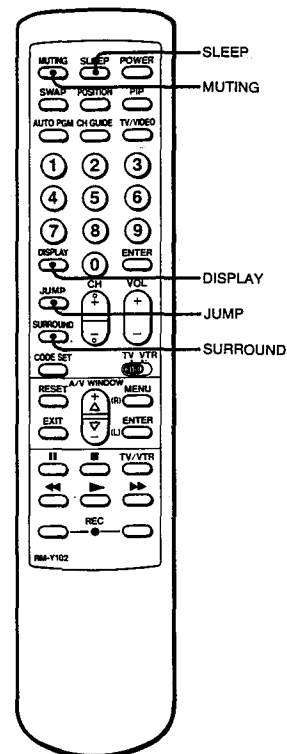
CHANNEL GUIDE		
1ABC	2DIS	3CNN
4ESPN	5	6
7	8	9
0		

To cancel the CHANNEL GUIDE screen  
Press CH GUIDE again.

- 2 Press the directory key of the channel you want to watch.



## 1-10. ENJOYING OTHER USEFUL FEATURES



### Muting the sound — MUTING

Press MUTING.  
The display "MUTING" will appear on the screen.  
To restore the sound  
Press MUTING again, or press VOL +



### Keeping the channel displayed — DISPLAY

To display the channel  
Press DISPLAY.

All the current displays will appear for 3 seconds,  
then disappear. The channel display will remain on  
the screen.

To cancel the display  
Press DISPLAY again.

The channel display will disappear.



### Listening to surround sound — SURROUND

Gives sound reproduction with the atmosphere of a movie theater or a  
concert hall.

To set

Press SURROUND.

The display II-III will appear on  
the screen for a few seconds.

To cancel

Press SURROUND again.

The display II-III will appear for a  
few seconds.



### Using the sleep timer — SLEEP

Turns TV off automatically about 1 hour after setting.  
Press SLEEP

A green "SLEEP ON" display appears for a few seconds.  
(A red "SLEEP" display will appear 1 minute before the TV shuts off.)

To cancel the setting

Press SLEEP again.

A green "SLEEP OFF" display appears for a few seconds.

OR

Turn the TV off.

The sleep timer setting will be cancelled.



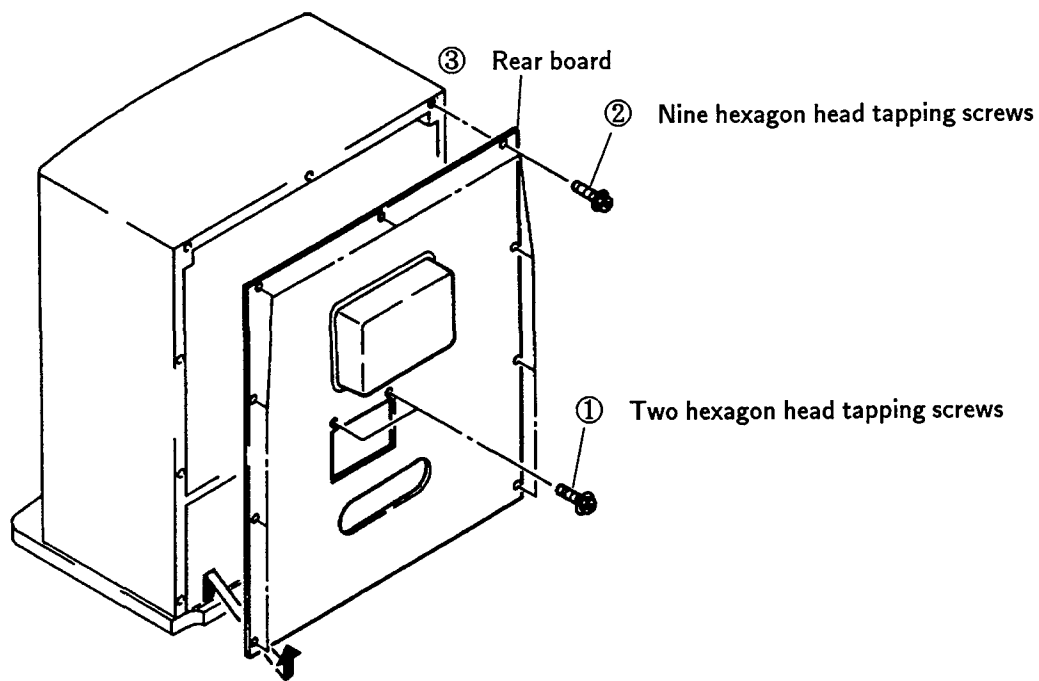
### Switching quickly between 2 channels — JUMP

Press JUMP once to recall the channel  
you were watching previously; press  
JUMP again to switch back. Use this  
feature to keep track of two programs  
alternately.

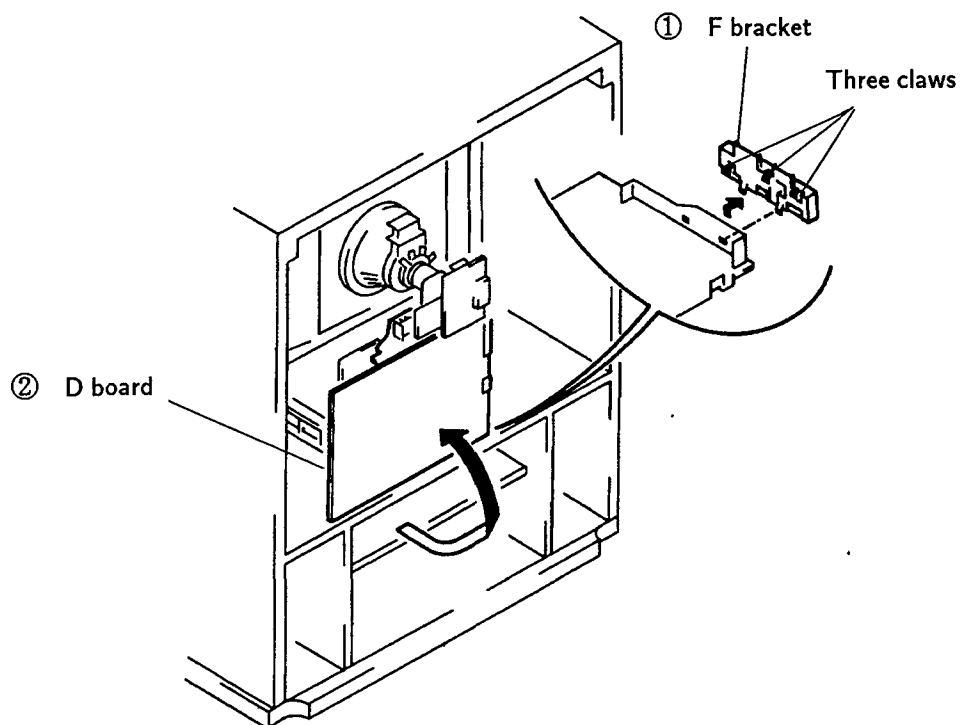


## SECTION 2 DISASSEMBLY

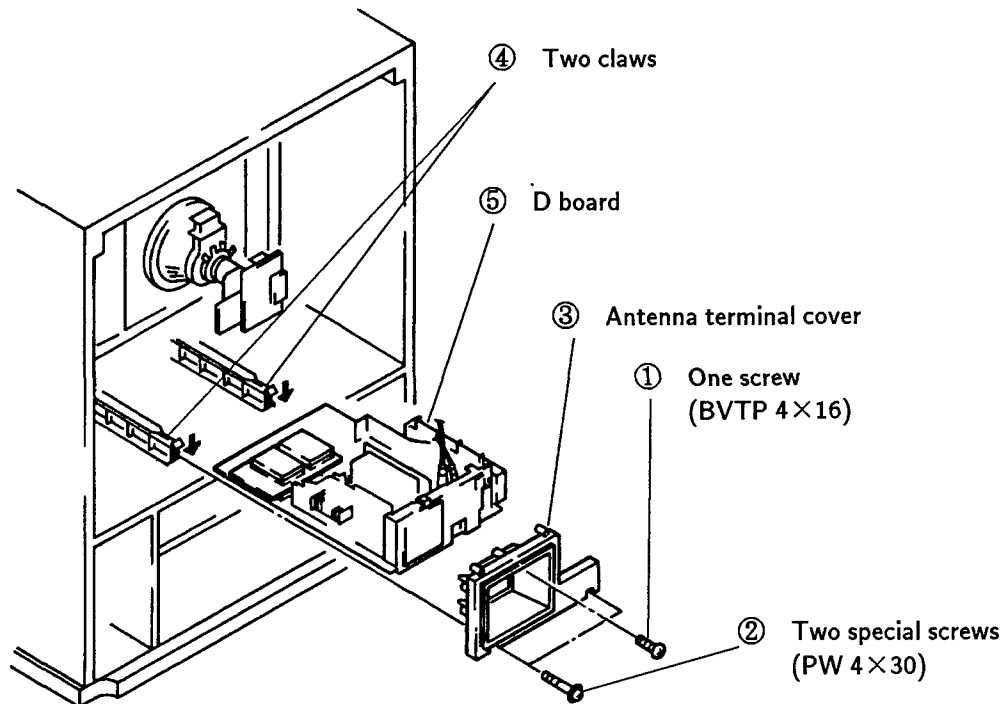
### 2-1. REAR PLATE REMOVAL



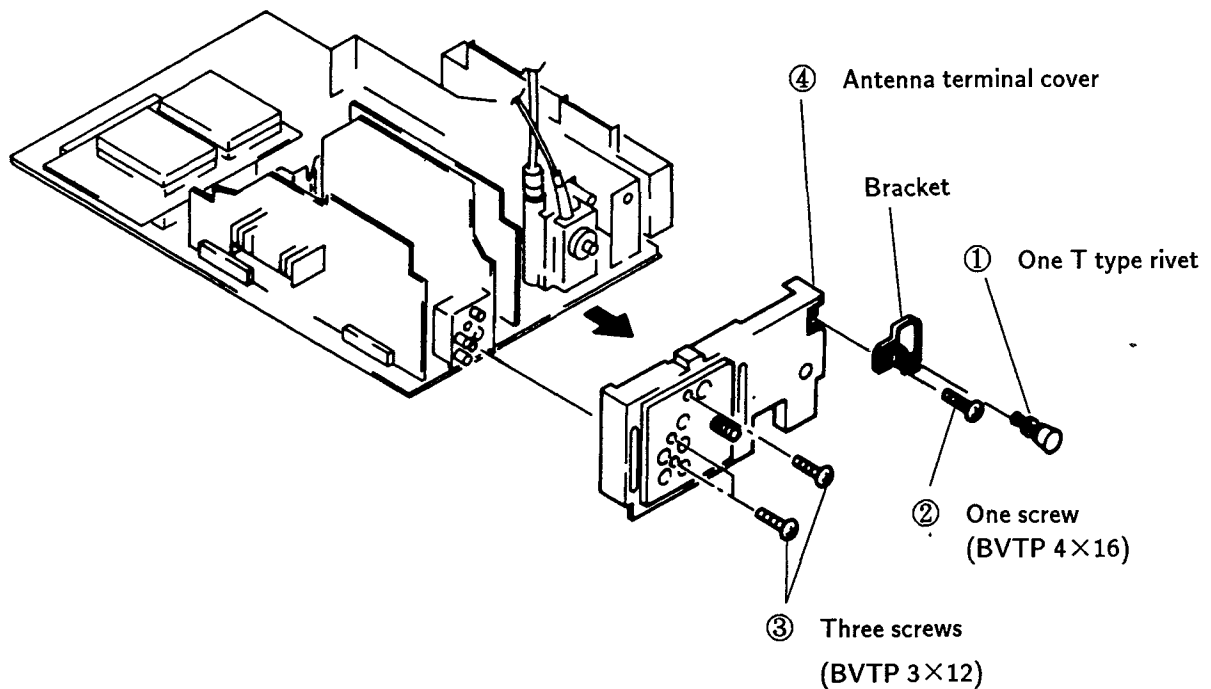
### 2-2. SERVICE POSITION



### 2-3. D BOARD REMOVAL

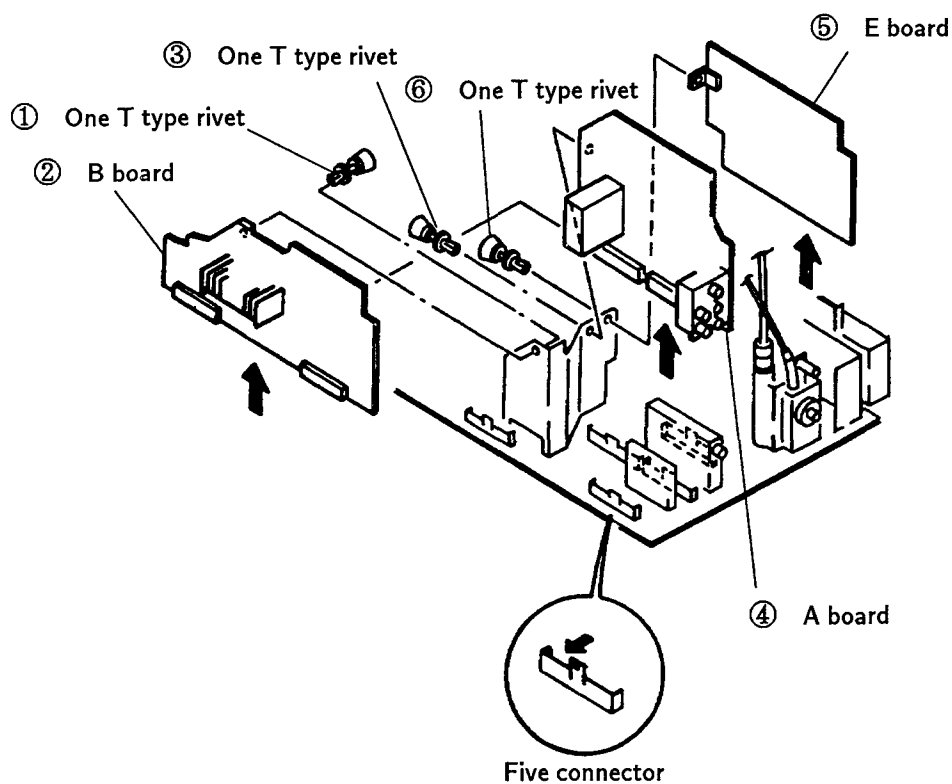


### 2-4. ANTENNA TERMINAL BOARD REMOVAL



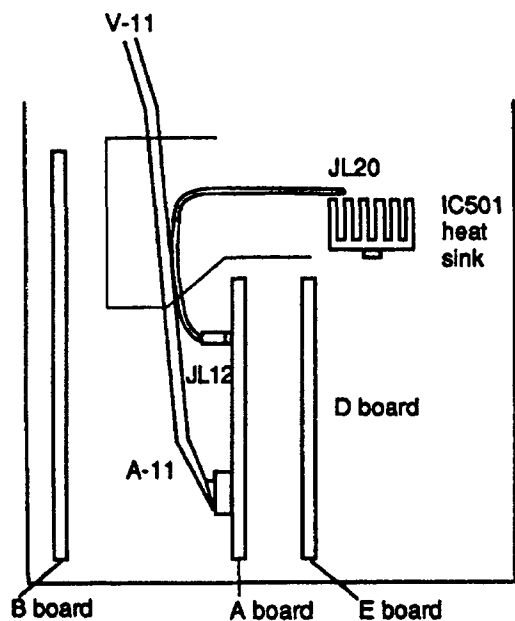


## 2-5. B,A AND E BOARDS REMOVAL



## 2-6. HOW TO IMPROVE INTERLACE

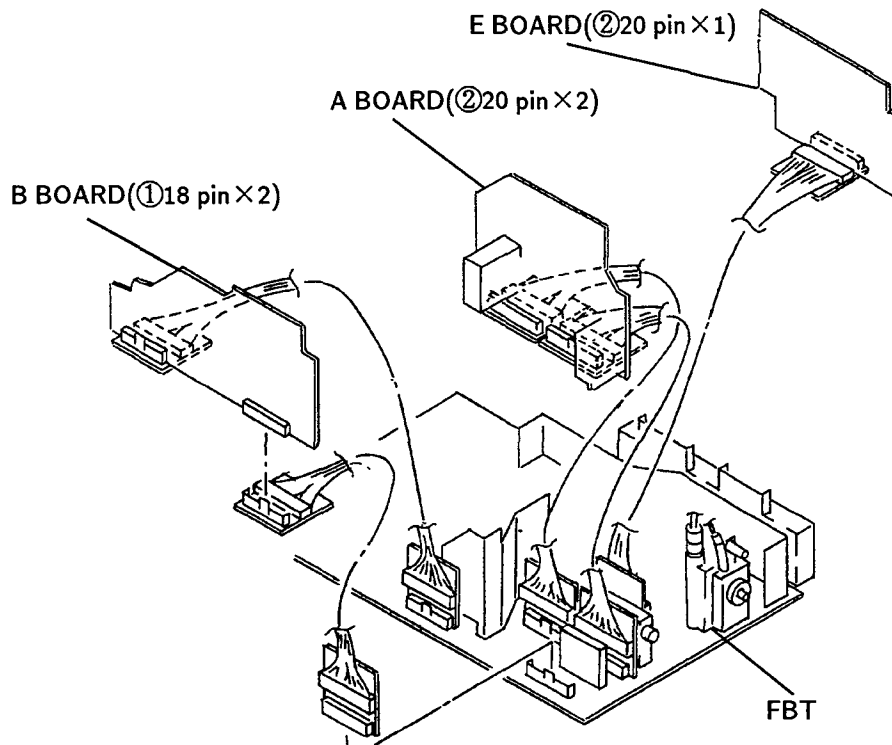
Fastening Jumper Connector Wire between JL 12(A board) and JL 20(D board).



Fasten the wire to eliminate slack between JL 20 and JL 12 with a purse lock.

## 2-7. B,A AND E BOARDS SERVICE POSITION

※ KEEP THE EXTENDED BOARDS FURTHER AWAY FROM FBT TO PREVENT INTERFERENCE.



### EXTENSION CABLES FOR A,B AND E BOARD

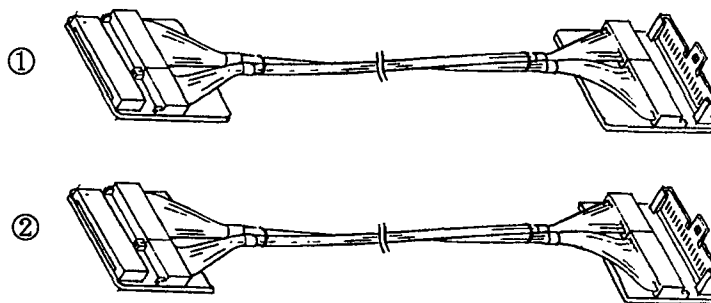
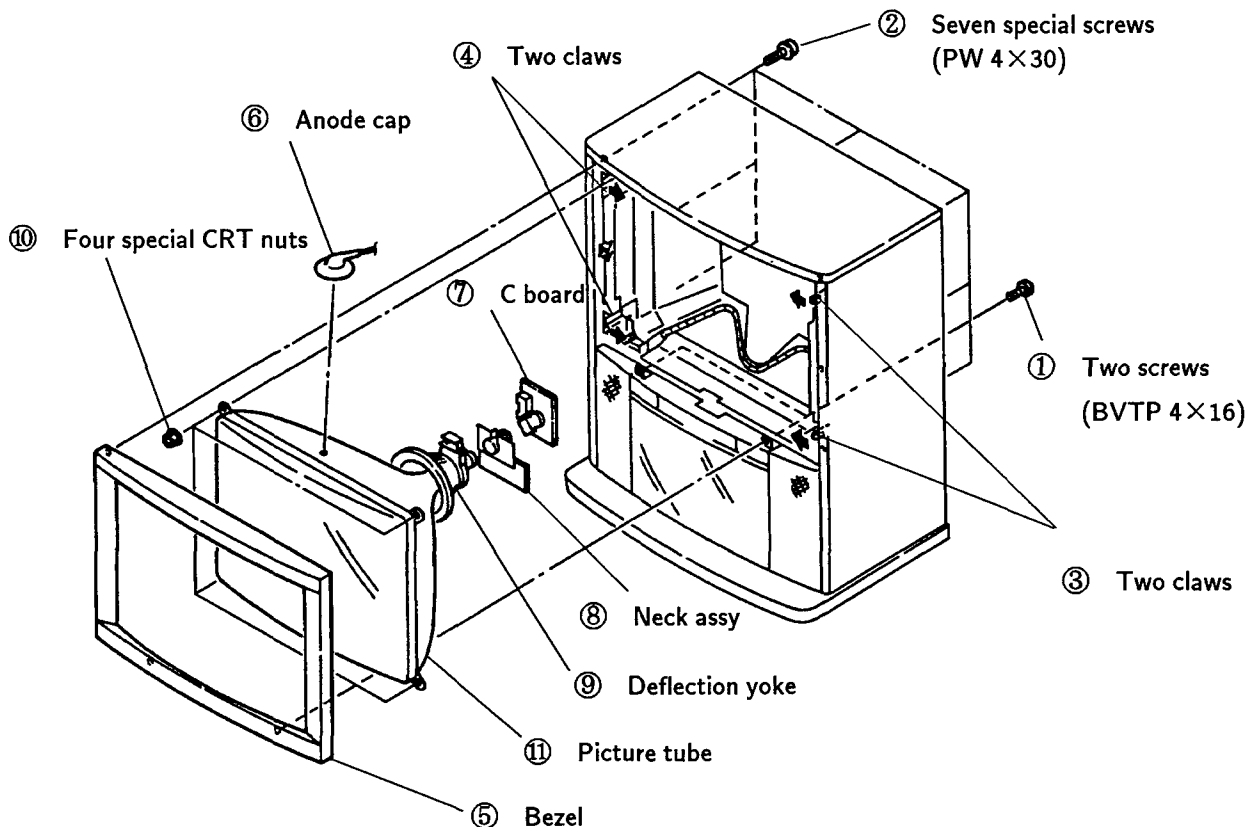


FIG	DISCLIPTION	QTY	USE FOR	PART NO
①	18 PIN-18 PIN(H 1,H 2)	2	B BOARD	3-702-541-01
②	20 PIN-20 PIN(H 3,H 4)	2	A BOARD	3-702-542-01
		1	E BOARD	

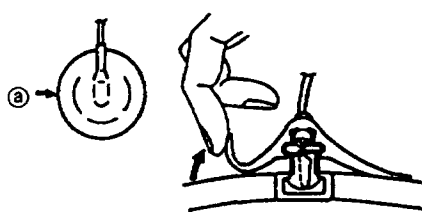
## 2-8. PICTURE TUBE REMOVAL



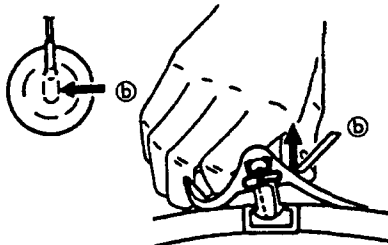
### • REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

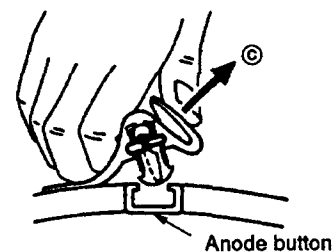
### • REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ①.



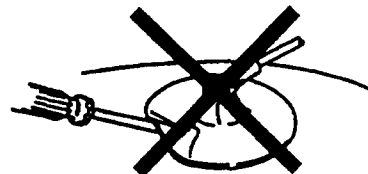
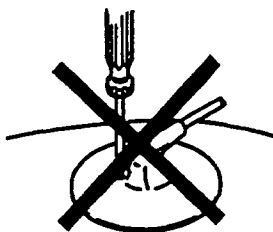
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ②.



③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

### • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!  
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!  
The shatter-hook terminal will stick out or hurt the rubber.



## SECTION 3

### SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted :

PICTURE control . . . . . RESET  
BRIGHTNESS control . . . . . center

#### Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

#### 3-1. BEAM LANDING

1. Input the white signal with the pattern generator.  
Contrast } normal  
Brightness }
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.  
(See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.  
(See Figure 3-4.)

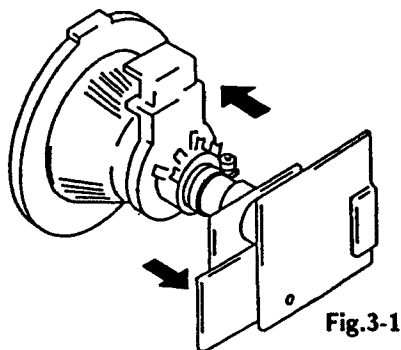


Fig.3-1

Perform the adjustments in order as follows :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

**Note :** Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

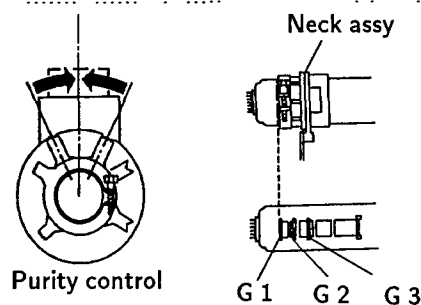


Fig.3-2

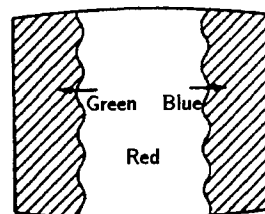


Fig.3-3

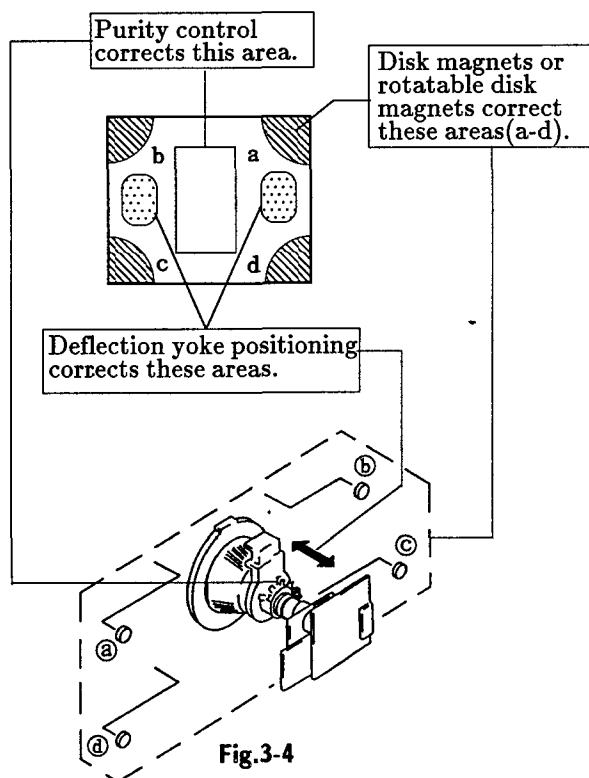
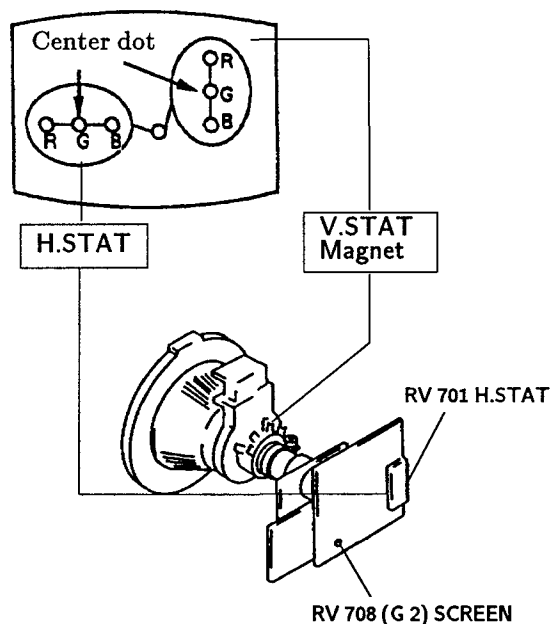


Fig.3-4

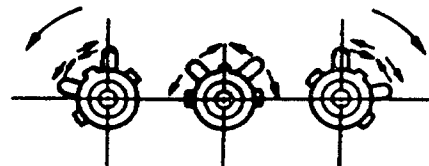
**3-2. CONVERGENCE****Preparation :**

- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

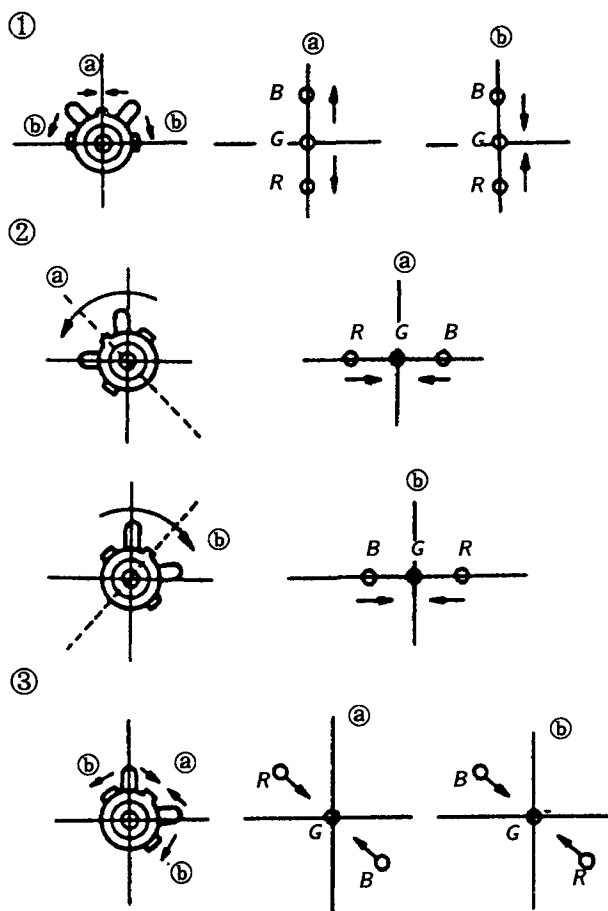
**(1) Horizontal and Vertical Static Convergence**

1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.  
(In this case, the H.STAT variable resistor and the V. STAT magnet influence each other)

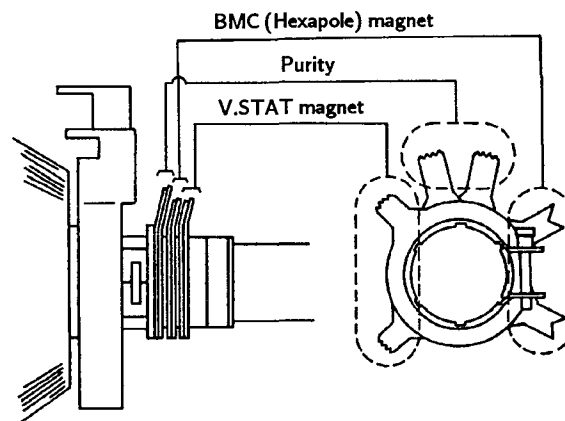
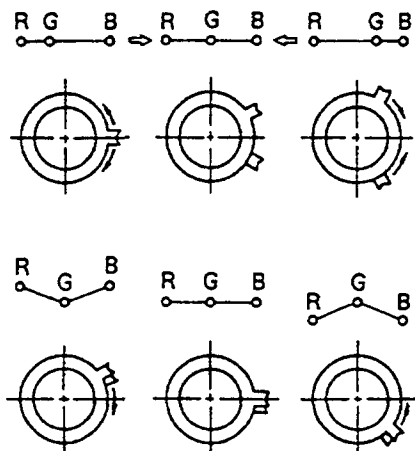
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V.STAT magnet is moved in the direction of the ② and ③ arrows, the red, green, and blue points move as shown below.



● Operation of BMC (Hexapole) Magnet

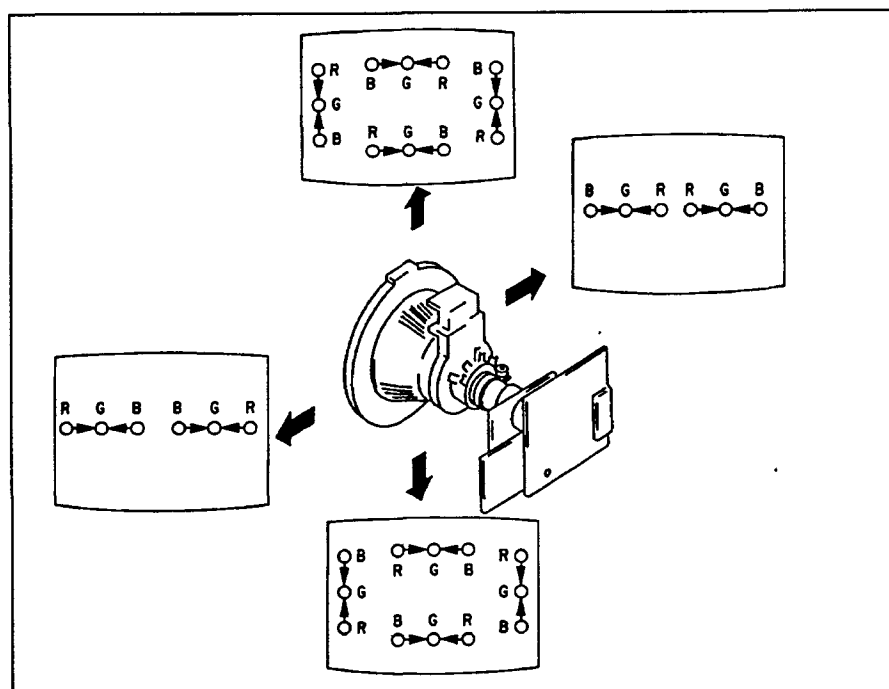


- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.  
Use the H. STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

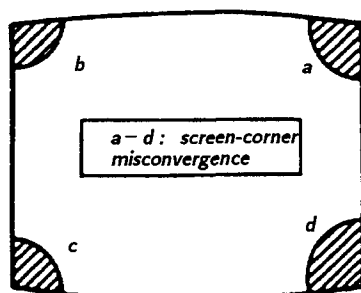
(2) Dynamic Convergence Adjustment

**Preparations :**

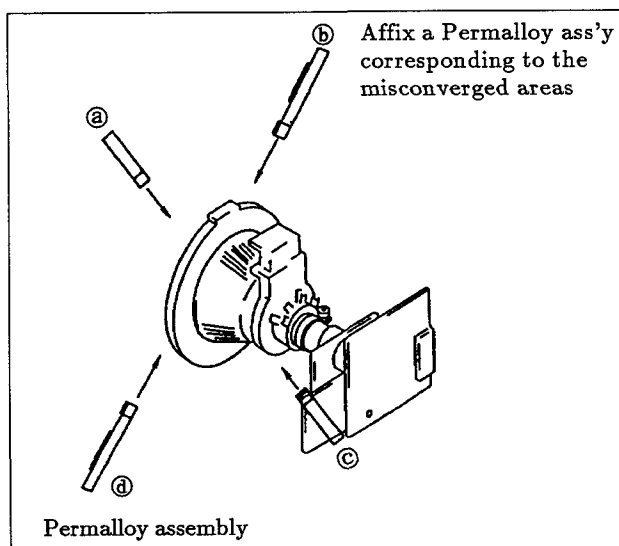
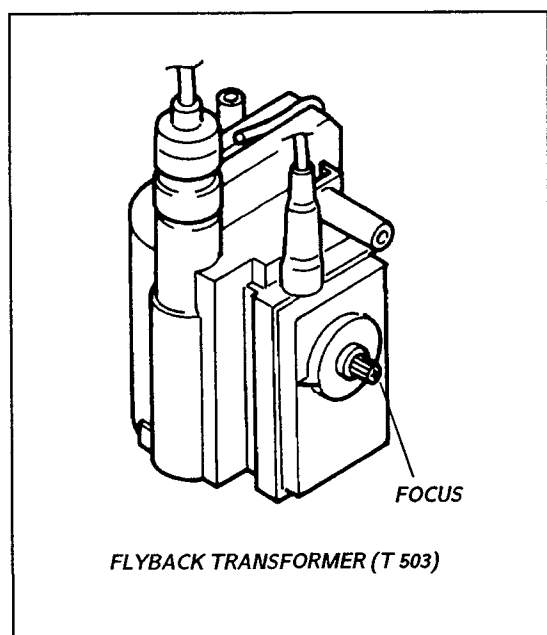
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.
1. Slightly loosen the deflection yoke screws.
  2. Remove the deflection yoke spacer.
  3. Move the deflection yoke as shown in the figure below and optimize the convergence.
  4. Tighten the deflection yoke screws.
  5. Install the defelection yoke spacer.



## (3) Screen-corner Convergence

**3-3. FOCUS ADJUSTMENT**

Adjust FOCUS control on the flyback transformer for a best focus.

**3-4. WHITE BALANCE****[ Screen G 2 setting ]**

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180 V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G 2 control RV 708 (Screen) to the point just before the return lines disappear.

**[ White balance adjustment ]**

1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV 703 (B Drive) and RV 705 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

## SECTION 4

### SAFETY RELATED ADJUSTMENTS

#### ■ R542 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ■ on the schematic diagram).

IC601, Q605, Q606, C536, C639, R537, R542, R546, R620, R621, R629, R630, PM501

①

#### 1. Preparation before confirmation

- 1) Remove R620 on the D board and connect a variable resistor (RV1: about 20k $\Omega$ ) between pin ① of IC601 and B+ line.
- 2) Supply 120 $\pm$ 2.0V AC to with variable auto-transformer.

#### 2. Hold-down operation confirmation

- 1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to 1650  $\pm$  20  $\mu$ A with PICTURE and BRIGHT etc controls.
- 2) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 145.7V DC whereby the raster disappears during operation of hold-down circuit.

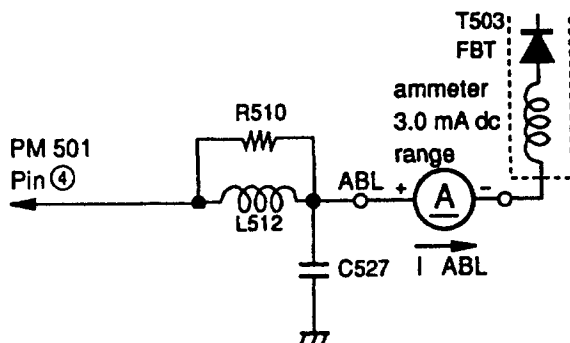
**NOTE:** When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

- 3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to 150  $\pm$  20  $\mu$ A with PICTURE and BRIGHT etc controls.
- 4) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 148.7V DC whereby the raster disappears during operation of hold-down circuit.

**NOTE:** When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

#### 3. Hold-down readjustment

When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R542 (a component marked with ■).



#### ■ R543 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ■ on the schematic diagram).

IC601, Q605, Q606, D507, C535, C536, C639, R520, R537, R543, R546, R620, R621, R629, R630, T503, PM501

②

#### 1. Preparation before confirmation

- 1) Turn the POWER switch ON, and receive entirely white signals and set the PICTURE and BRIGHT controls to maximum.
- 2) Confirm that voltage of the check terminal of pin① of D-15 is more than 120.0V DC when the set is operating normally with 120.0 $\pm$ 2.0V AC supply.

#### 2. Hold-down operation confirmation

- 1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to 1650  $\pm$  20  $\mu$ A with PICTURE and BRIGHT etc controls.
- 2) Apply DC voltage of over 130V DC gradually to the check terminal of pin① of D-15 via 1T40 from the DC stabilized power source.

Confirm that the minimum voltage is less than 138.8V DC whereby the raster disappears during operation of hold-down circuit.

**NOTE:** When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

- 3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to 150  $\pm$  20  $\mu$ A with PICTURE and BRIGHT etc controls.
- 4) Apply DC voltage of over 130V gradually to the check terminal of pin① of D-15 via 1T40 from the DC stabilized power source.

Confirm that the minimum voltage is less than 138.8V DC whereby the raster disappears during operation of hold-down circuit.

**NOTE:** When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

#### 3. Hold-down readjustment

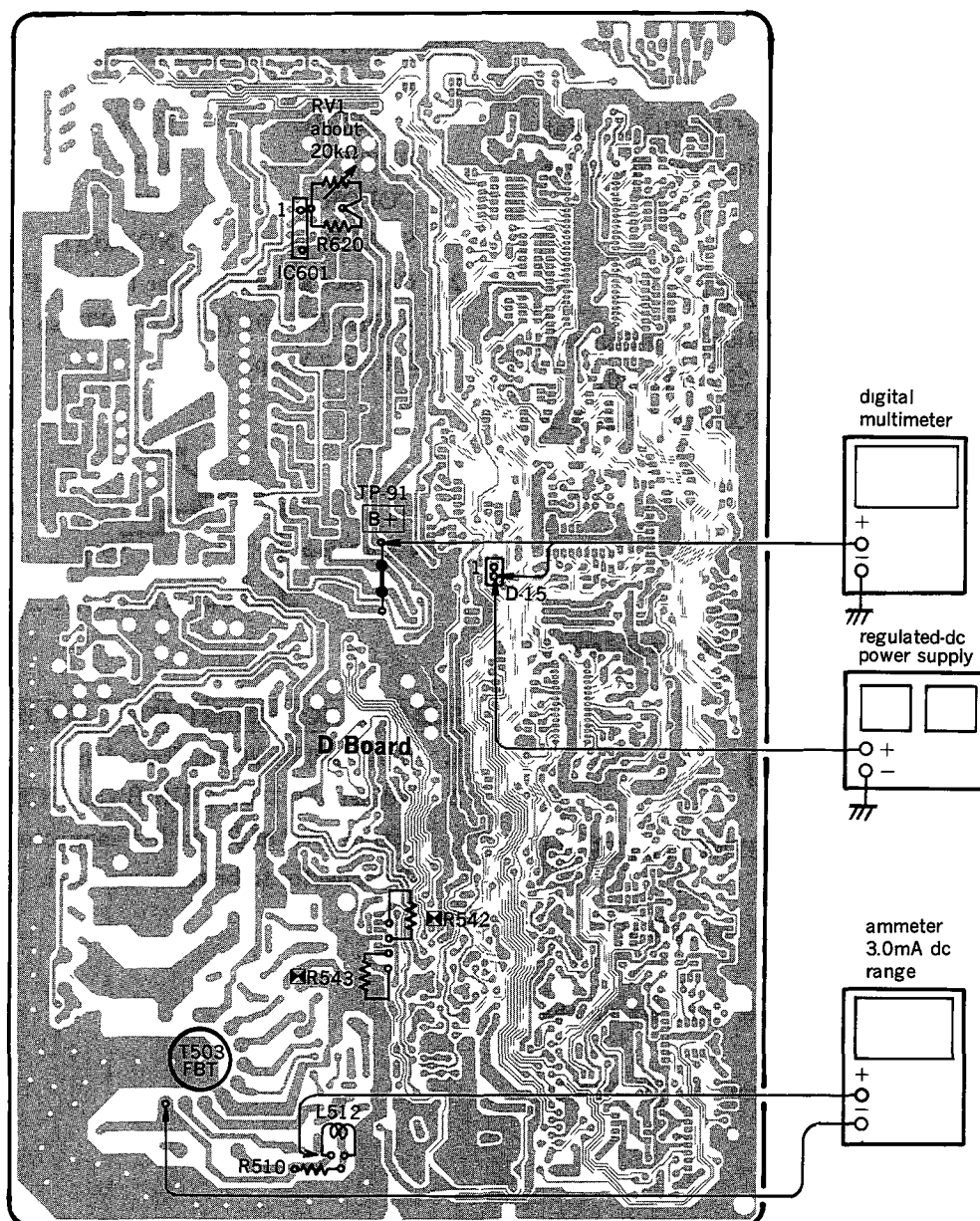
When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R543 (a component marked with ■).



**B+ VOLTAGE CONFIRMATION**

The following adjustments should always be performed when replacing IC601 and R620.

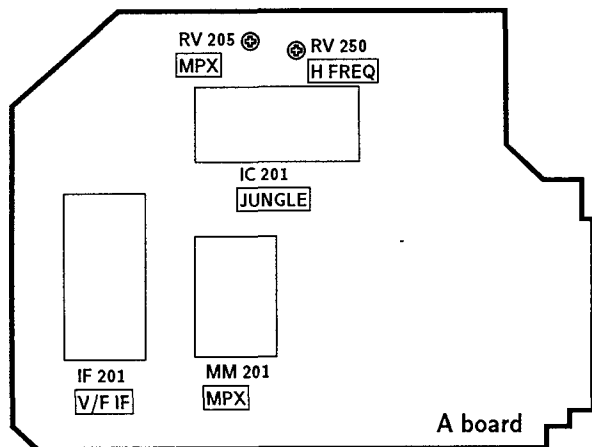
- 1) Supply  $130 \pm 2^{\circ}\text{V}$  AC to with variable auto-transformer.
- 2) Receive entirely monoscope signal.
- 3) Set the PICTURE control and the BRIGHT controls in to initial reset.
- 4) Confirm the voltage of TP-91 is less than 136.6V DC.
- 5) If step 4) is not satisfied, replace IC601 and R620 repeat above steps.



## SECTION 5

### CIRCUIT ADJUSTMENTS

#### 5-1. A BOARD ADJUSTMENTS

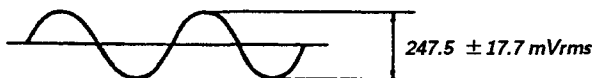


##### RF AGC ADJUSTMENT (AGC VR)

1. Receive an off-air signal.
2. Adjust AGC VR (AGC VR of IF 201) so that snow noise and cross-modulation just disappear from the picture.

##### MPX LEVEL ADJUSTMENT (RV 205)

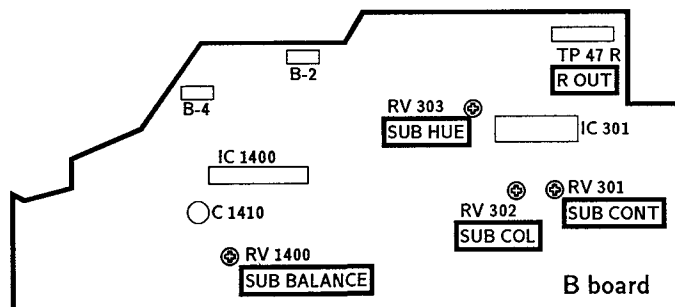
1. Receive 400 Hz (100% modulation) sound signal.
2. Connect an RMS meter to pin ⑫ of MM 201.
3. Adjust RV 201 so that the MPX level is  $247.5 \pm 17.7$  mVrms.



##### H. FREQ ADJUSTMENT (RV 250)

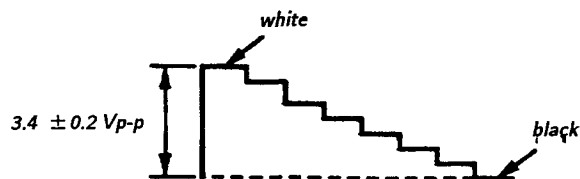
1. Receive an off air signal.
2. Short circuit between TP (Y SYNC) and TP (12 V) with a jumper wire.
3. Connect the frequency counter to pin ⑧ of connector A-3.
4. Adjust RV 250 for  $15.734 \text{ kHz} \pm 60 \text{ Hz}$  on the frequency counter.
5. Disconnect a jumper wire from TP (Y SYNC) and TP (12 V).

#### 5-2. B BOARD ADJUSTMENTS



##### SUB CONTRAST ADJUSTMENT (RV 301)

1. Receive a color-bar signal.  
 PICTURE ..... MAX  
 BRT... ..... MIN  
 COLOR ..... MIN  
 SHARP ..... NORMAL
2. Connect an oscilloscope to the TP 47 R(R OUT).
3. Adjust RV 301 (SUB CONT) so that voltage is  $3.4 \pm 0.2$  Vp-p.

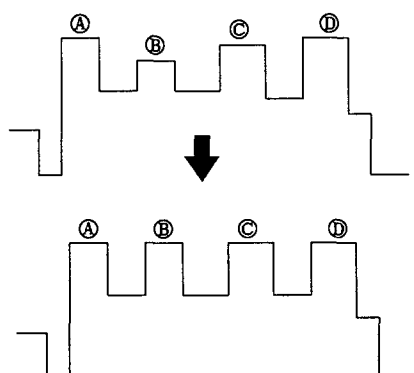


##### SUB BALANCE ADJUSTMENT (RV 1400)

1. Input 400 Hz 200 mVrms signal.
2. Adjust RV 1400 (SUB-BALANCE) so that the output level of ② pin B-4 connector and ① pin B-2 connector to be the same level.

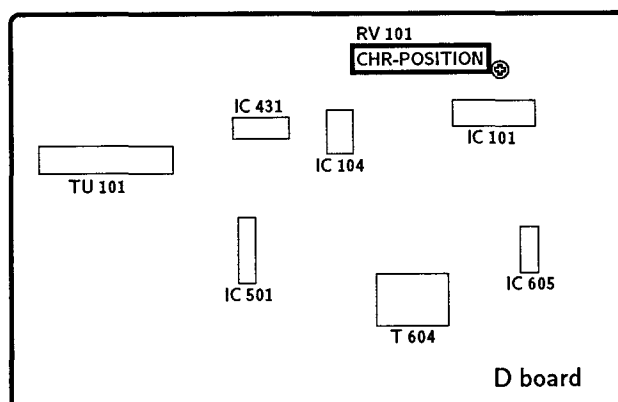
**SUB COLOR AND SUB HUE ADJUSTMENTS  
(RV 302, 303)**

1. Receive a color bar signal.
2. Set PICTURE and BRT to normal.
3. Connect an oscilloscope to the TP 47 R (B OUT).
4. Adjust RV 302(SUB-COL)and RV 303 (SUB-HUE) to be the same level.

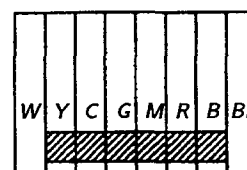


$$\textcircled{A}=\textcircled{D}$$

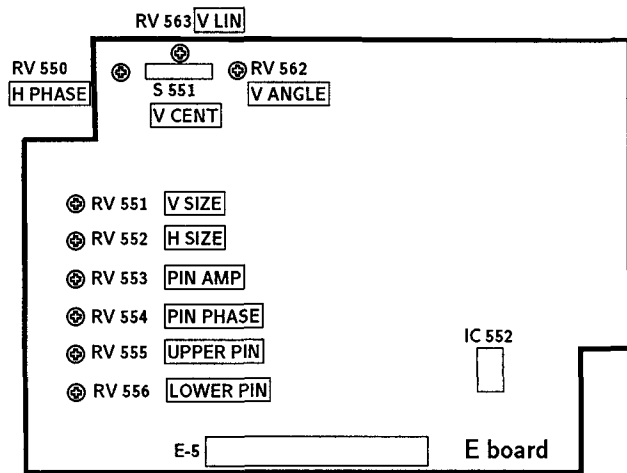
$$\textcircled{B}=\textcircled{C}$$

**5-3. D BOARD ADJUSTMENTS****CHARACTER POSITION (RV 101)**

1. Receive a color-bar signal.
2. Set the PICTURE control to maximum setting and set the BRIGHTNESS control to center click position.
3. Press the PICTURE control button until this picture level becomes maximum.
4. Adjust RV 101 as shown in Fig. 1.

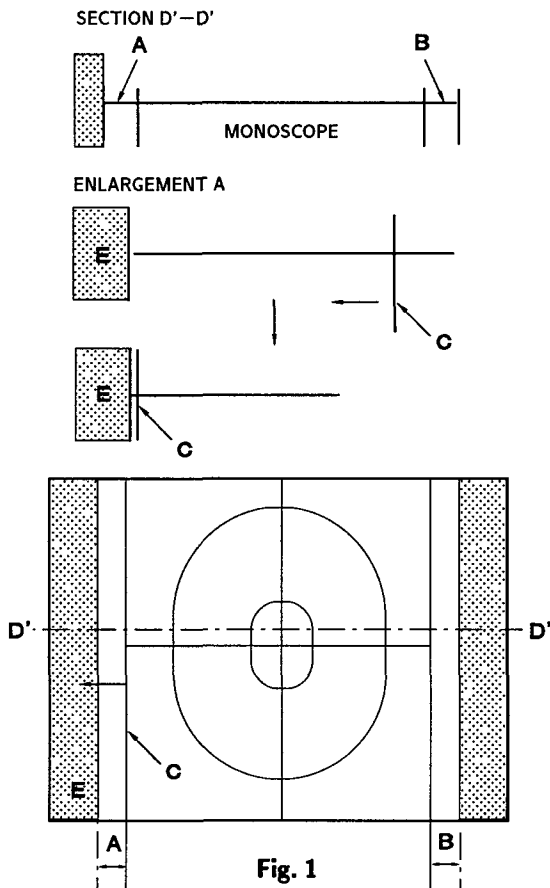
**Fig. 1**

## 5-4. E BOARD ADJUSTMENTS



### H.PHASE (HORIZONTAL PHASE) (RV 550)

1. Receive monoscope signal.
2. Adjust H-SIZE min.
3. Turn H-PHAZE VR until area "C" moves in the arrow direction and coincide with the edge of area "E" (DOTTED AREA) (Fig.1)



### H. SIZE (HORIZONTAL SIZE) (RV552)



### V. CENT (VERTICAL CENTER) (S551)



### V. SIZE (VERTICAL SIZE) (RV551)



### V. ANGLE (VERTICAL ANGLE) (RV562)



### PIN. AMP (PINCUSHION AMPLIFIER) (RV553)



### PIN. PHASE (PINCUSHION PHASE) (RV554)



### UPPER PIN (RV555)



### LOWER PIN (RV556)



### V.LIN (VERTICAL LINEARITY) (RV 563)



# SECTION 6 DIAGRAMS

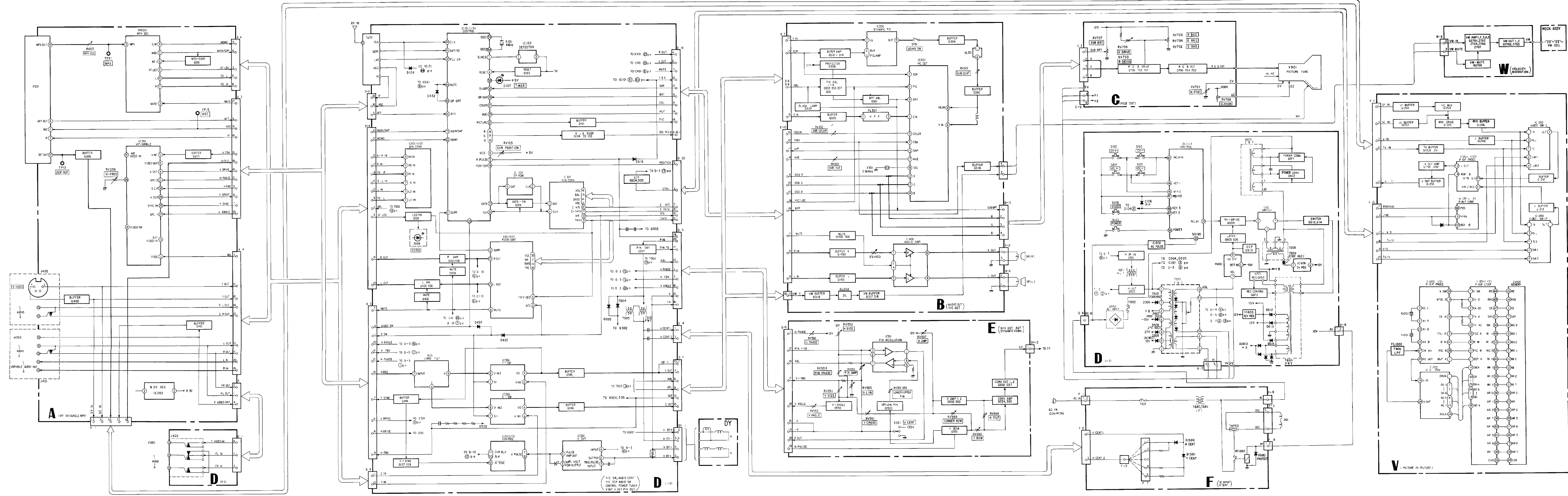
## 6-1. BLOCK DIAGRAM

KV-32TW76  
RM-Y102

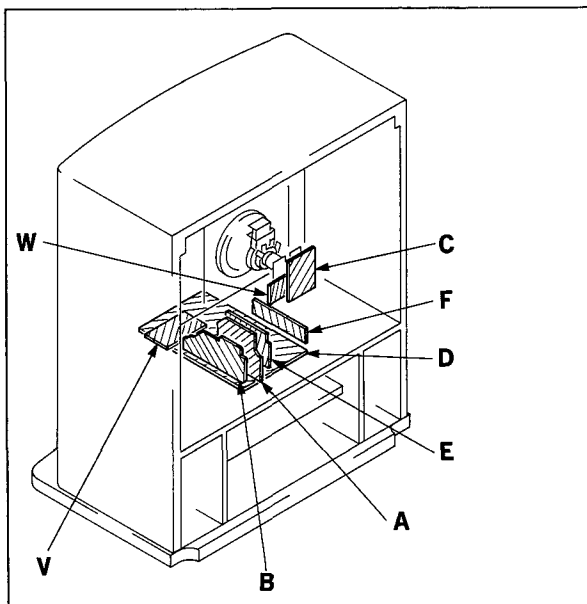
KV-32TW76  
RM-Y102

KV-32TW76  
RM-Y102

KV-32TW76  
RM-Y102



## 6-2. CIRCUIT BOARDS LOCATION



## 6-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

### Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  
pF:  $\mu\mu\text{F}$  50WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm  
Rating electrical power 1/4W

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.  
Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved.  
(Refer to R542 and R543 on page 28,29 in the Service Manual.)
- When replacing the part in below table be sure to perform the related adjustment.

Part replaced ()	Adjustment ()
IC601, PM501, Q605, Q606, C536, C639, R630, R629, R621, R620, R546, R542, R537	R542 (HOLD-DOWN)
IC601, PM501, Q606, Q605, D507, T503, C639, C536, C535, R630, R629, R621, R620, R543, R546, R520, R537	R543 (HOLD-DOWN)

- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 M $\Omega$  digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- : B+ bus.
- : signal path.

### Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

### Note:

The components identified by shading and mark are critical for safety. Replace only with part number specified.



A

[JUNGLE, VIF/SIF, MPX]

E

[H/V DEF. ADJ, DYNAMIC CONV.]

B

[Y/C → RGB, AUDIO OUT]

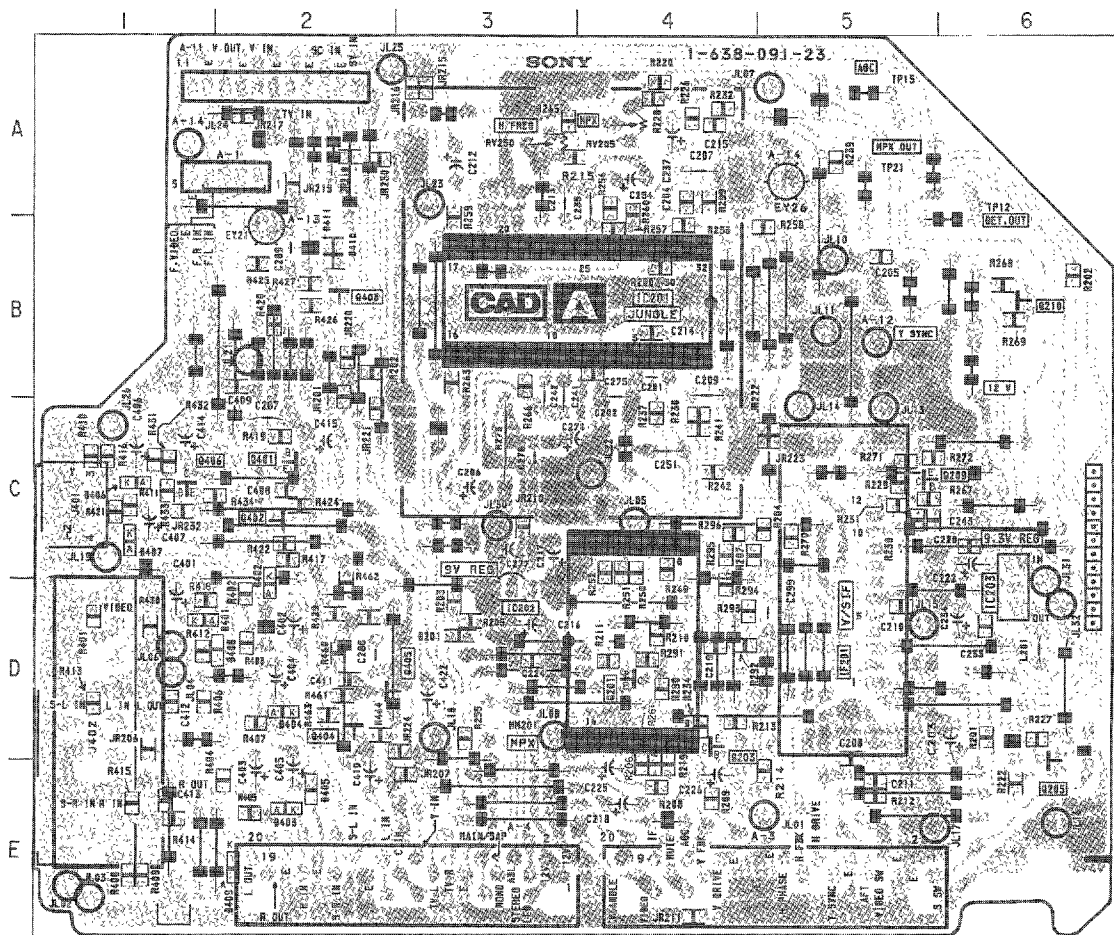
F

[AC INPUT, H. CENT]

W

[VELOCITY MODURATION]

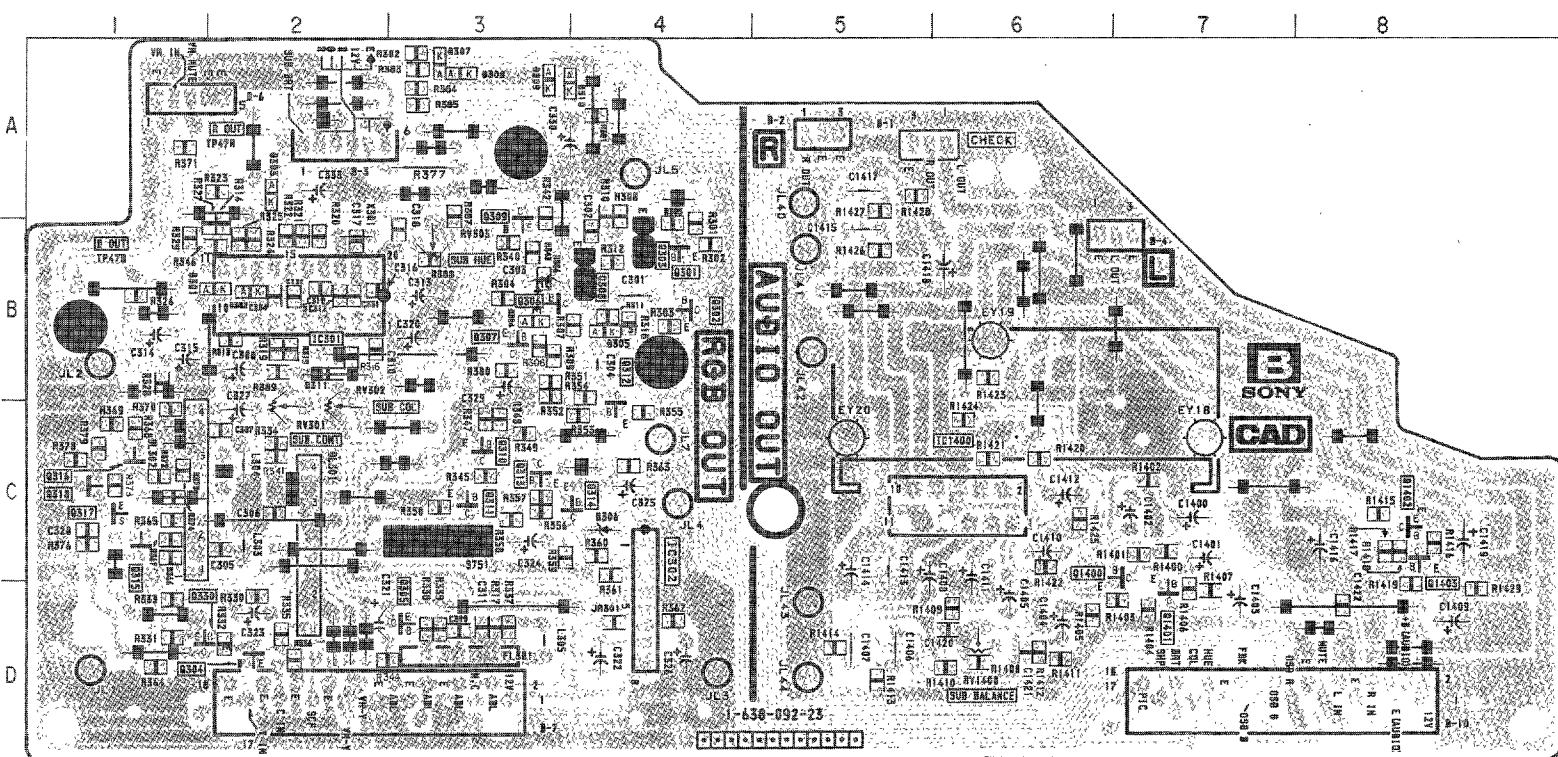
— A Board —



— A Board —

IC	
IC201	B-4
IC202	D-4
IC203	D-6
TRANSISTOR	
Q201	D-4
Q203	D-4
Q209	C-5
Q401	C-2
Q406	C-1
DIODE	
D401	D-1
D402	C-2
D403	E-2
D404	D-2
D405	E-2
D406	C-1
D407	C-1
D408	D-2
D409	E-2
VARIABLE RESISTOR	
RV205	A-4
RV250	A-3

— B Board —

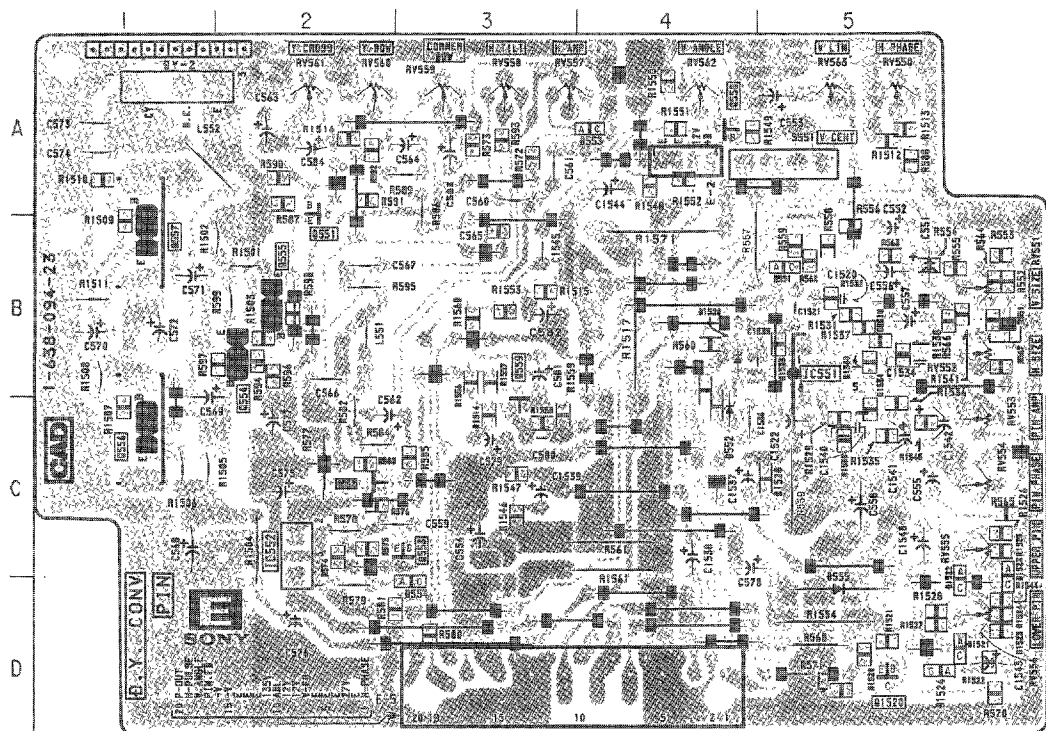


— B Board —

IC	
IC301	B-2
IC302	C-4
IC1400	C-6
TRANSISTOR	
Q301	B-4
Q302	B-4
Q303	B-4
Q304	D-2
Q305	D-3
Q306	B-3
Q307	B-3
Q308	B-4
Q309	B-3
Q310	C-3
Q311	C-3
Q312	C-4
Q313	C-3
Q314	C-4
Q315	C-1
Q316	C-1
Q317	C-1
Q318	C-1
Q330	D-1
Q1400	C-7
Q1401	D-7
Q1402	C-8
Q1403	C-8
DIODE	
D301	B-2

D302	B-2
D303	A-2
D304	B-3
D305	B-4
D306	C-4
D307	A-3
D308	A-3
D309	A-3
D310	A-3
VARIABLE RESISTOR	
RV301	C-2
RV302	C-2
RV303	B-3
RV1400	D-6

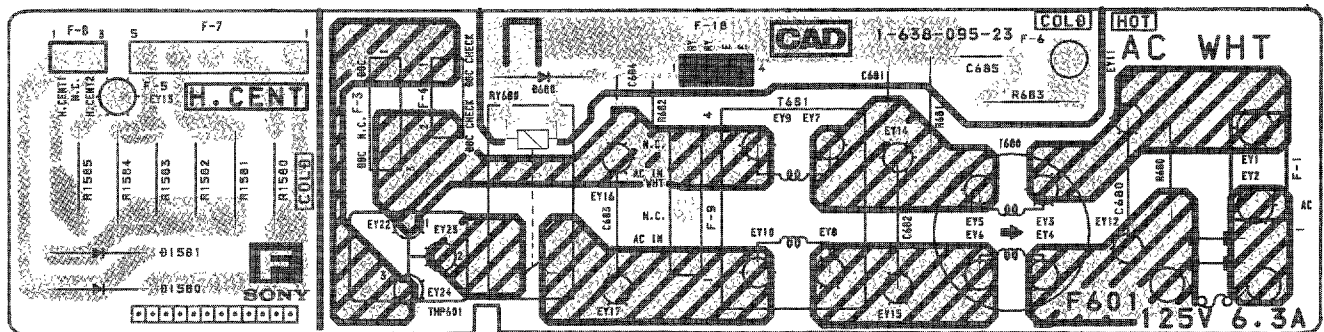
— E Board —



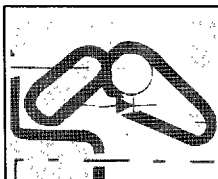
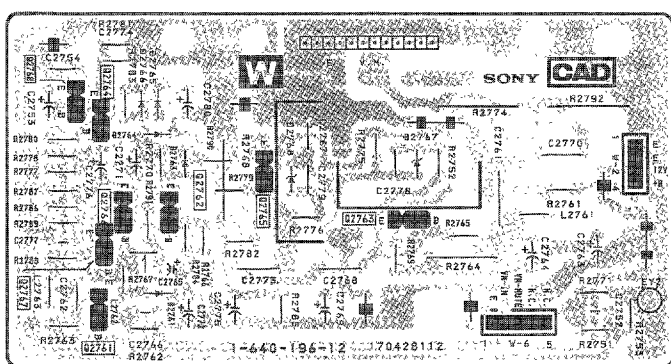
— E Board —

IC	
IC551	B-5
IC552	C-2
TRANSISTOR	
Q551	A-2
Q552	C-2
Q553	C-3
Q554	B-2
Q555	B-2
Q556	C-1
Q557	B-7
Q558	A-4
Q559	A-5
Q560	A-2
Q561	A-2
Q562	A-4
Q563	A-5
DIODE	
D552	C-4
D553	A-4
D554	C-3
D555	C-5
D1521	D-6
D1522	C-6
D1523	C-6
D1524	D-6
VARIABLE RESISTOR	
RV550	A-5
RV551	B-6
RV552	B-6
RV553	C-6
RV554	C-6

— F Board —



— W Board —

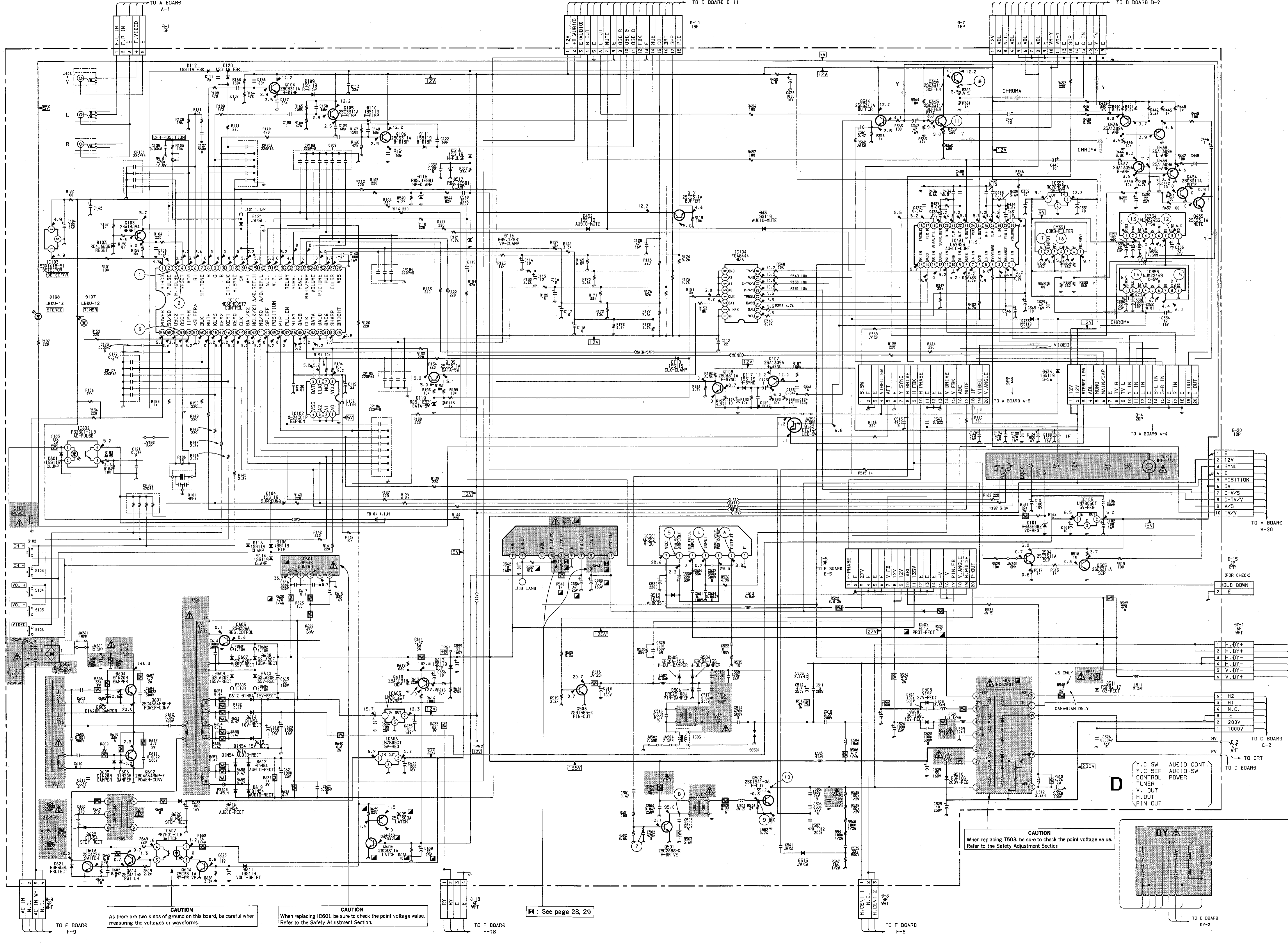
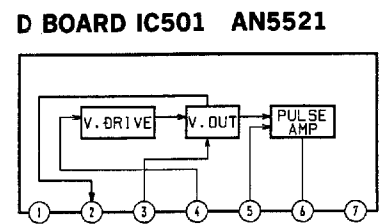
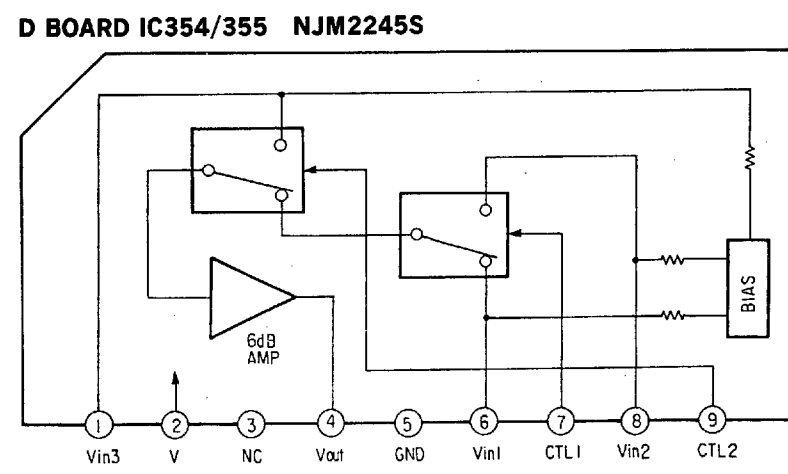
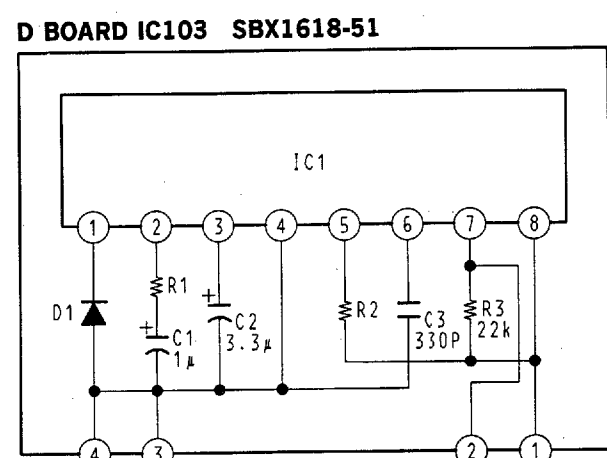
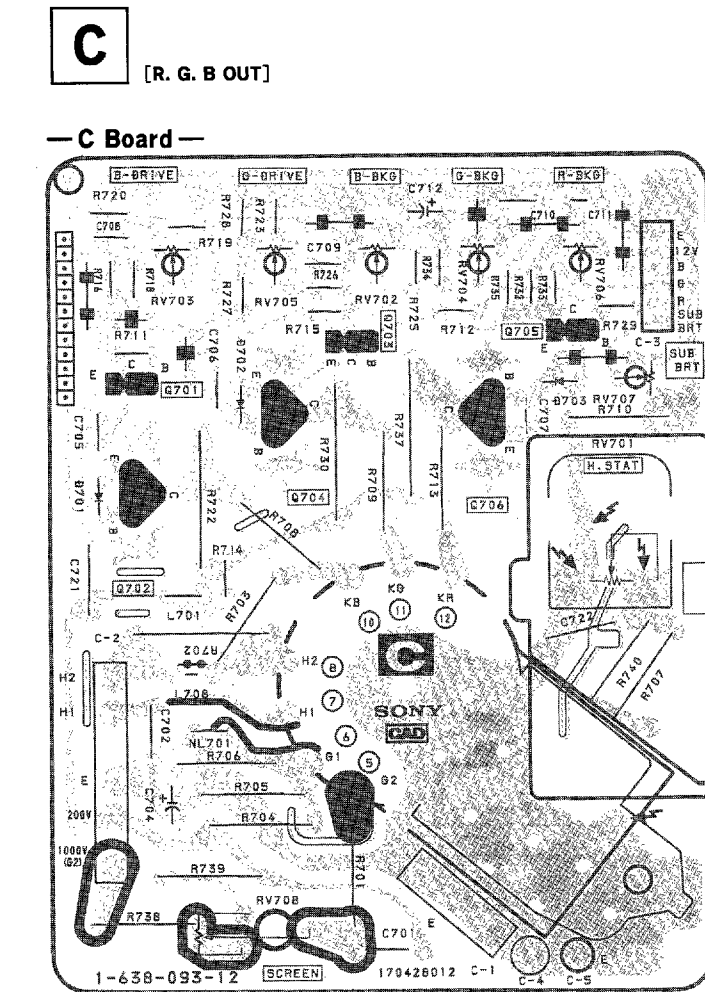
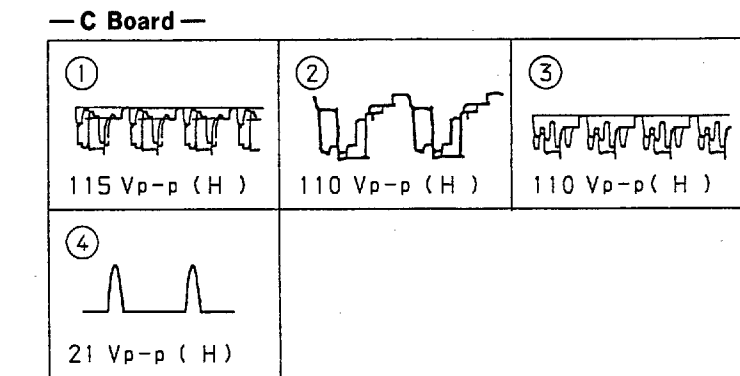
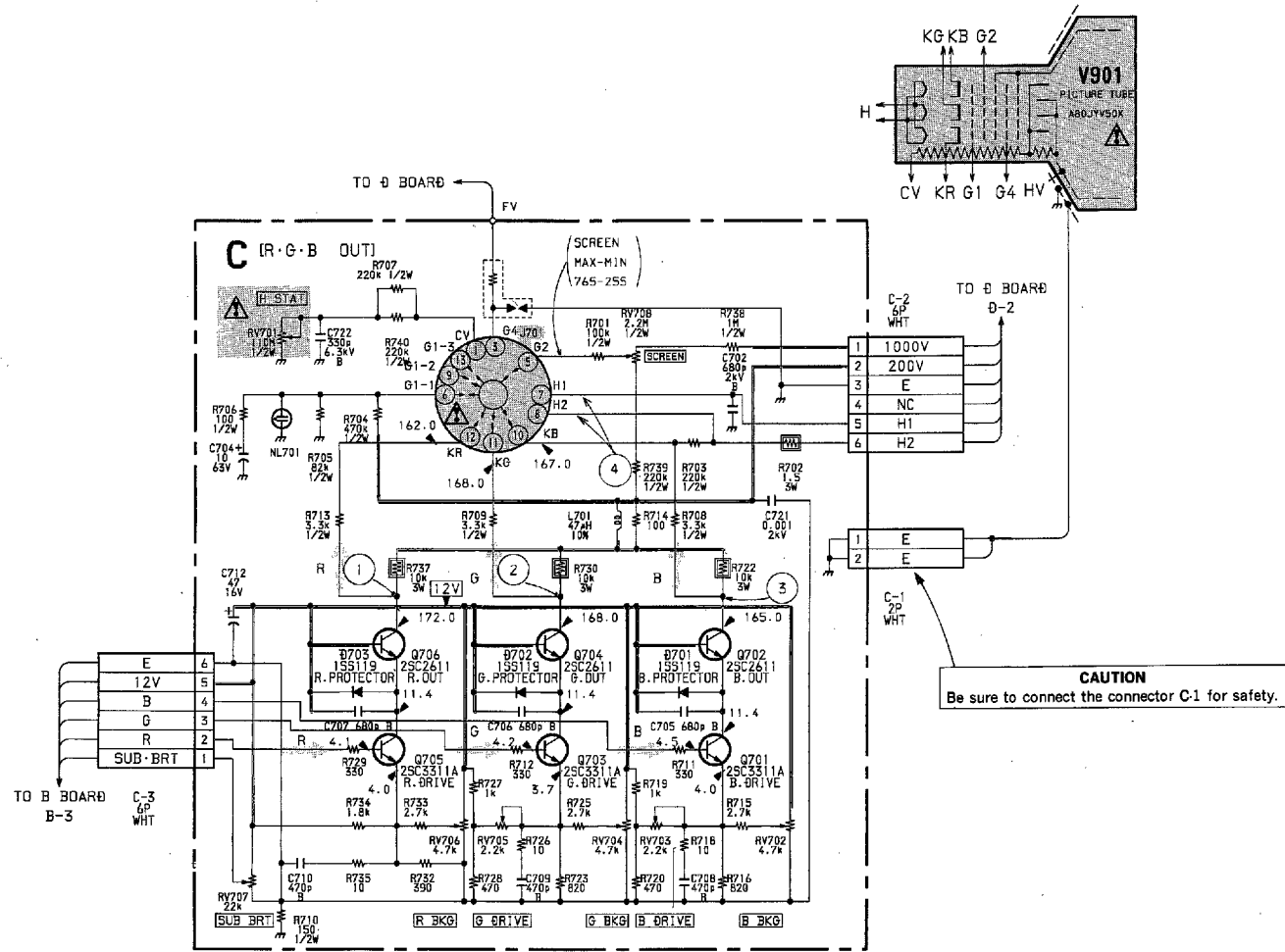


**NOTE:**  
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

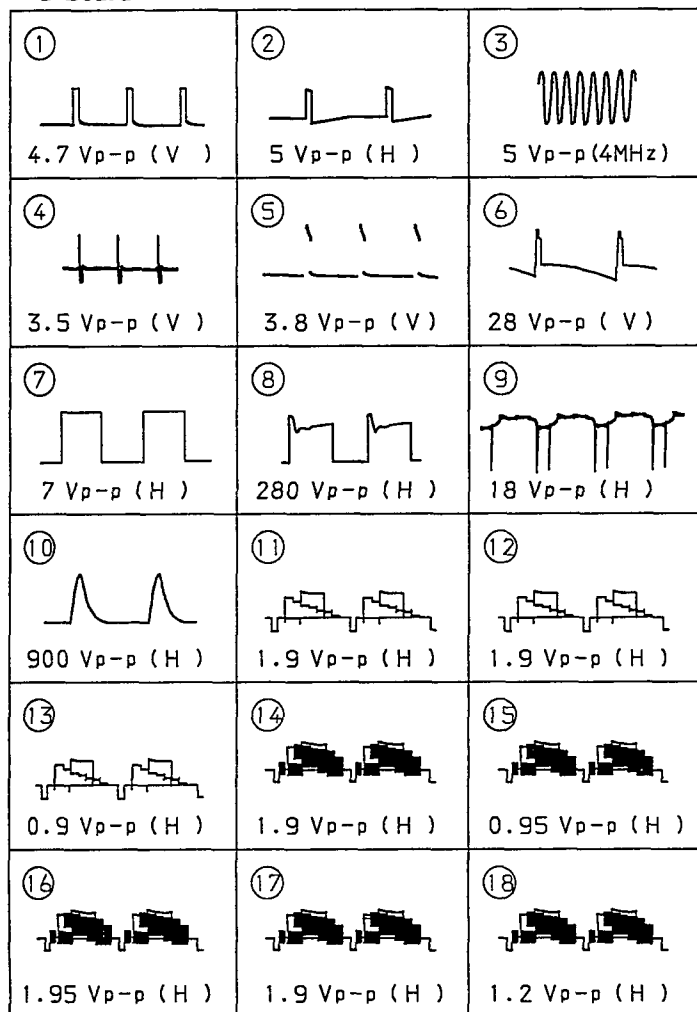




A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

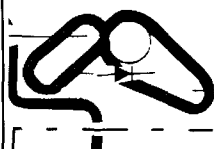


## — D Board —



## — D Board —

IC		D115	A-2
IC101	B-3	D116	B-2
IC102	C-3	D117	A-8
IC103	C-1	D118	B-5
IC104	B-6	D119	B-5
IC105	C-8	D120	A-4
IC352	B-12	D431	A-8
IC354	A-12	D432	B-4
IC355	A-10	D433	B-8
IC431	B-7	D434	B-8
IC501	E-8	D504	G-10
IC601	E-3	D505	F-10
IC602	F-2	D506	G-9
IC605	E-1	D507	D-11
IC606	F-2	D508	D-11
IC607	F-5	D509	D-11
		D510	E-10
		D511	F-10
		D512	E-8
		D515	E-9
TRANSISTOR		D516	B-5
Q101	B-5	D517	B-5
Q103	A-2	D601	G-1
Q104	A-3	D602	G-2
Q105	A-4	D603	G-5
Q106	A-3	D604	G-5
Q107	A-9	D605	G-6
Q108	A-8	D606	G-6
Q109	C-5	D607	E-4
Q122	C-7	D608	E-4
Q344	A-9	D609	E-3
Q345	A-10	D610	E-3
Q346	A-10	D611	E-6
Q434	B-9	D612	C-5
Q435	B-10	D613	D-4
Q436	B-9	D614	E-5
Q437	B-9	D615	E-5
Q438	A-9	D616	E-5
Q439	B-9	D617	E-5
Q501	G-7	D618	E-5
Q502	G-10	D619	E-6
Q503	F-6	D620	F-2
Q504	D-5	D621	F-5
Q505	D-5	D622	G-4
Q601	G-4		
Q602	G-6		
Q603	F-3		
Q604	E-6		
Q605	D-6		
Q606	D-6		
Q610	D-4		
Q613	F-6		
Q614	F-6		
DIODE		VARIABLE RESISTOR	
D101	D-10	RV101	A-3
D103	A-2		
D104	C-3		
D106	D-3		
D107	D-1		
D108	C-1		
D109	A-4		
D110	A-5		
D111	A-5		
D112	E-4		
D113	C-3		
D114	C-3		

**NOTE:**

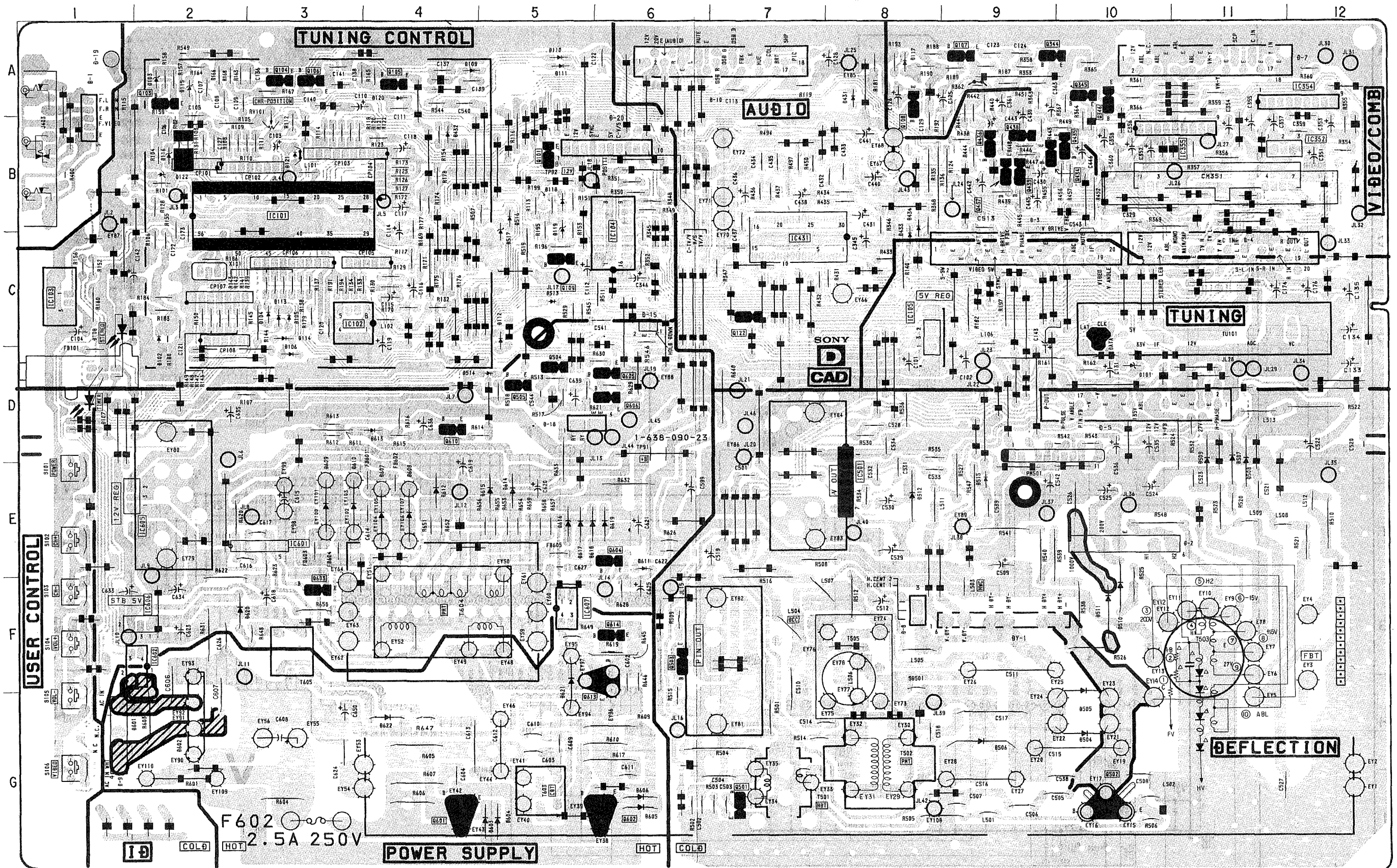
The circuit indicated as left contains high voltage of over 600 V<sub>p-p</sub>. Care must be paid to prevent an electric shock in inspection or repairing.

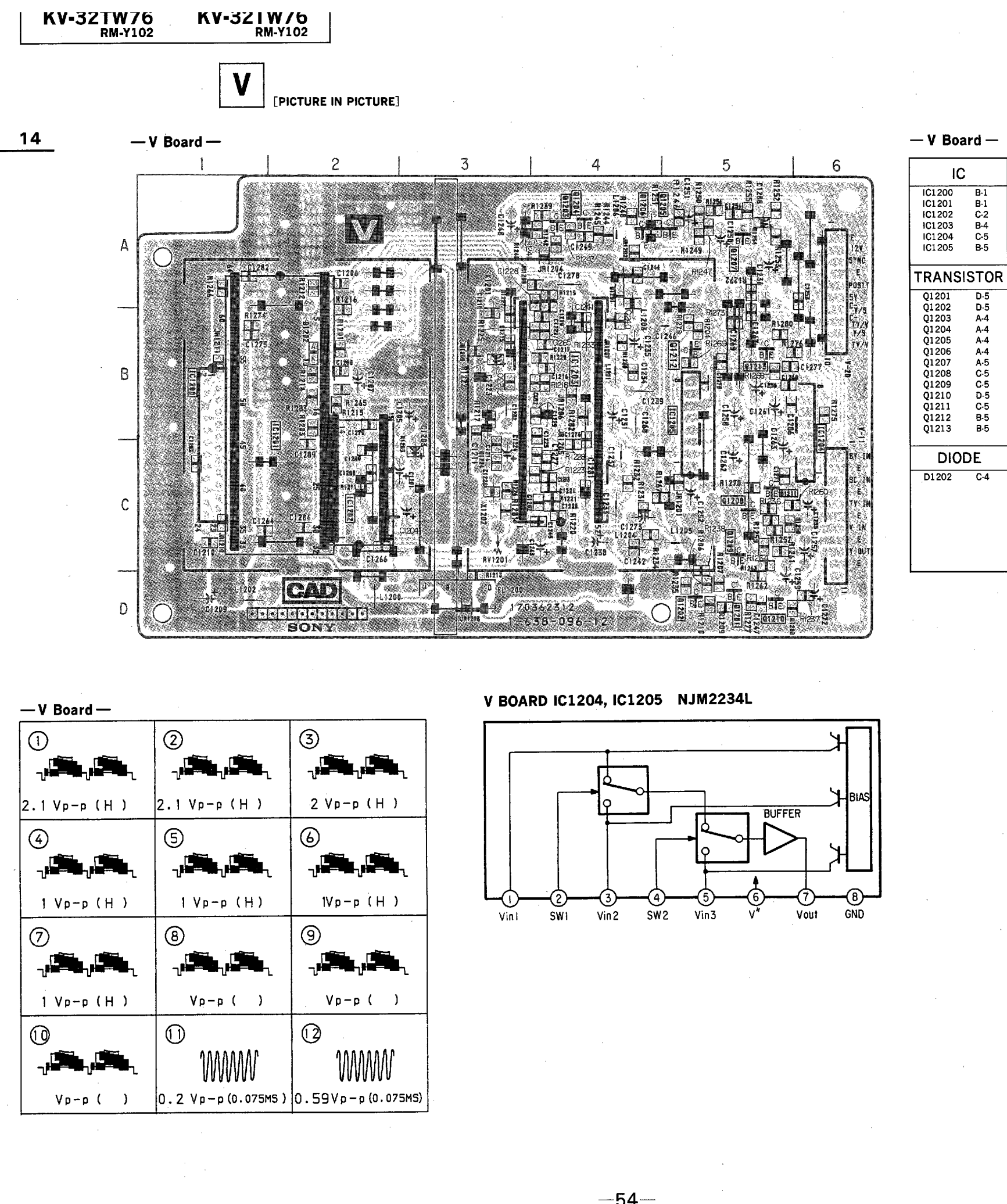
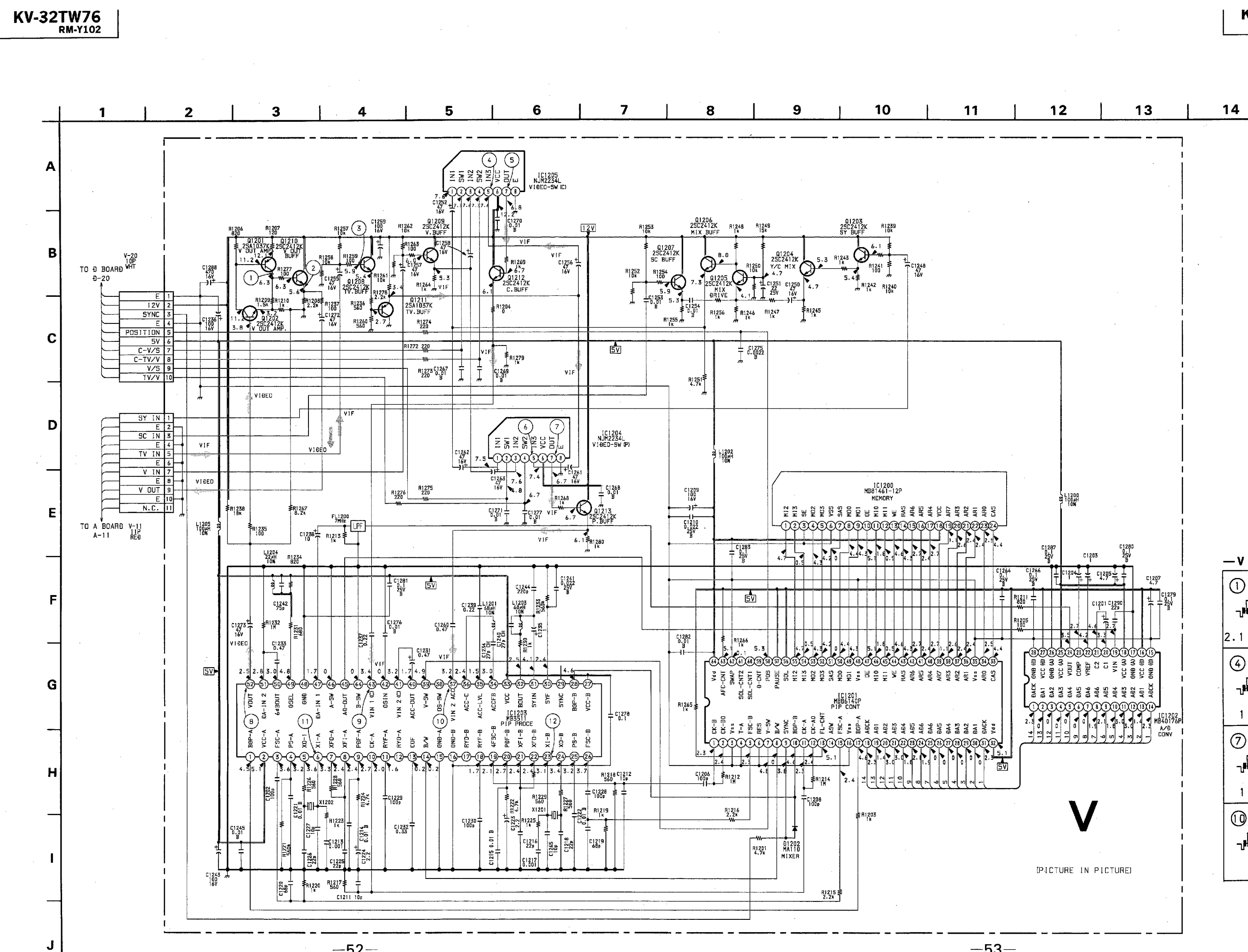


D

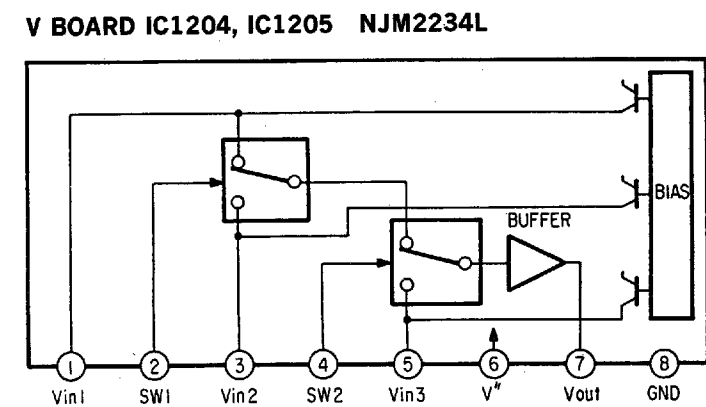
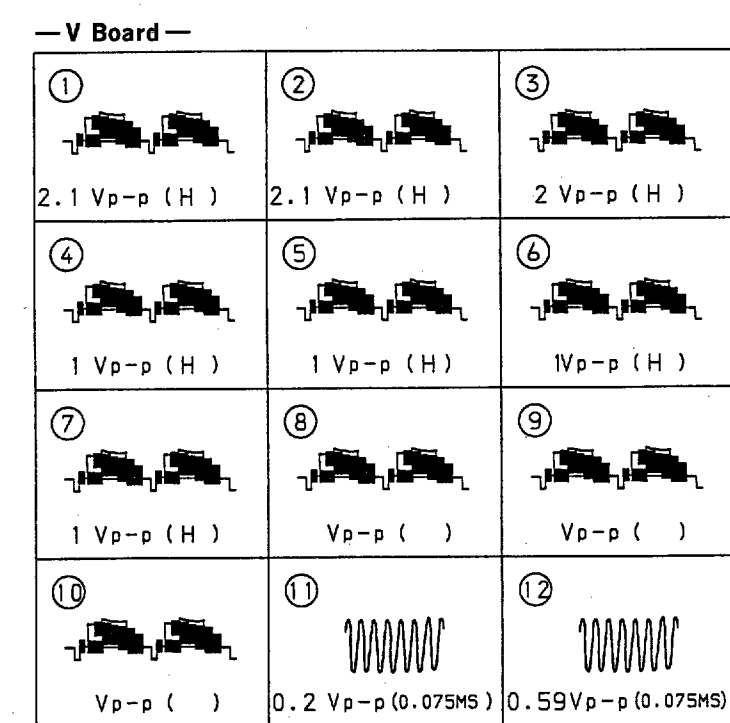
Y. C SW, AUDIO CONT, Y. C SEP, AUDIO SW,  
CONTROL, POWER, TUNER, V. OUT, H. OUT, PIN OUT

— D Board —



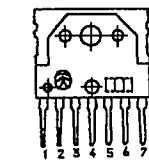


IC	
IC1200	B-1
IC1201	B-1
IC1203	C-2
IC1204	B-4
IC1205	C-5
IC1206	B-5
TRANSISTOR	
Q1201	D-5
Q1202	D-5
Q1203	A-4
Q1204	A-4
Q1205	A-4
Q1206	A-4
Q1207	A-5
Q1208	C-5
Q1209	C-5
Q1210	D-5
Q1211	C-5
Q1212	B-5
Q1213	B-5
DIODE	
D1202	C-4



6-4. SEMICONDUCTORS

AN5521



MB81461-12-PSZ-G-BE2



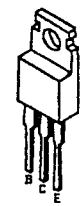
RC78L09A



2SA1091-0

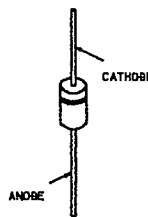


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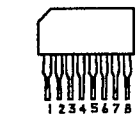


01NS4  
R010SB  
R030ESB2  
R033ESB2  
R04.3ESB1  
R04.7ESB2  
R05.1ESB1  
R05.6ESB1  
R06.2ESB1  
1SS119

ERC38-06  
ERC06-15S  
RU-3AM  
S2LA20F  
EGP30GL-6072



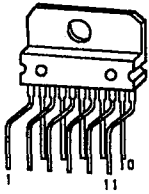
CX20125  
NJM2234L



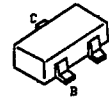
MB886140P-SH



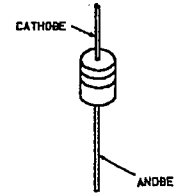
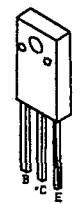
T0A2009A



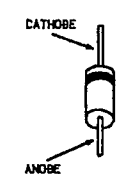
2SA1162-G  
2SB709A-R  
2SC2412K-QR  
2SD601A-Q



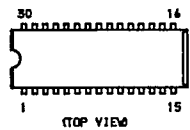
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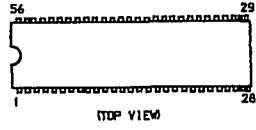
ER029-08J



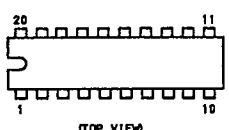
LA7953



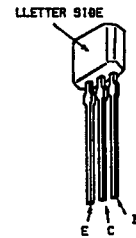
MC68HC05T7-LSC89919B



T0A3569B



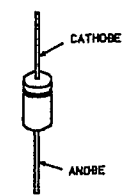
2SA1175-HFE  
2SC2785-HFE  
2SC3311A-QRS



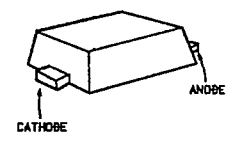
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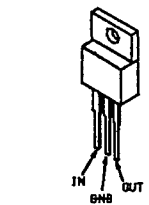
EGP20G  
EL1Z  
RGP02-17  
10E-2



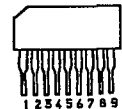
MA110



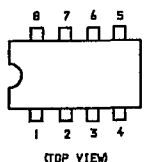
LM7805CT  
LM7812CT  
RC78M09FA



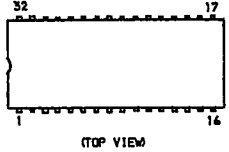
NJM2245S



RC4558P  
X24C01P



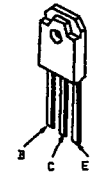
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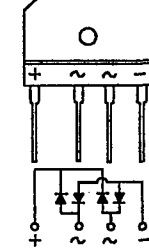
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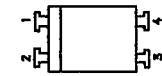
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04SB60-F



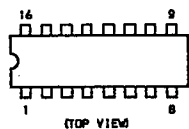
PC817-C  
PS2501-1LB



MB3511P-SH



T0A8444



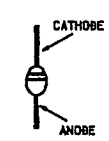
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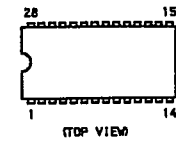
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U05G



MB40176P






## SECTION 7 EXPLODED VIEWS

### NOTE:

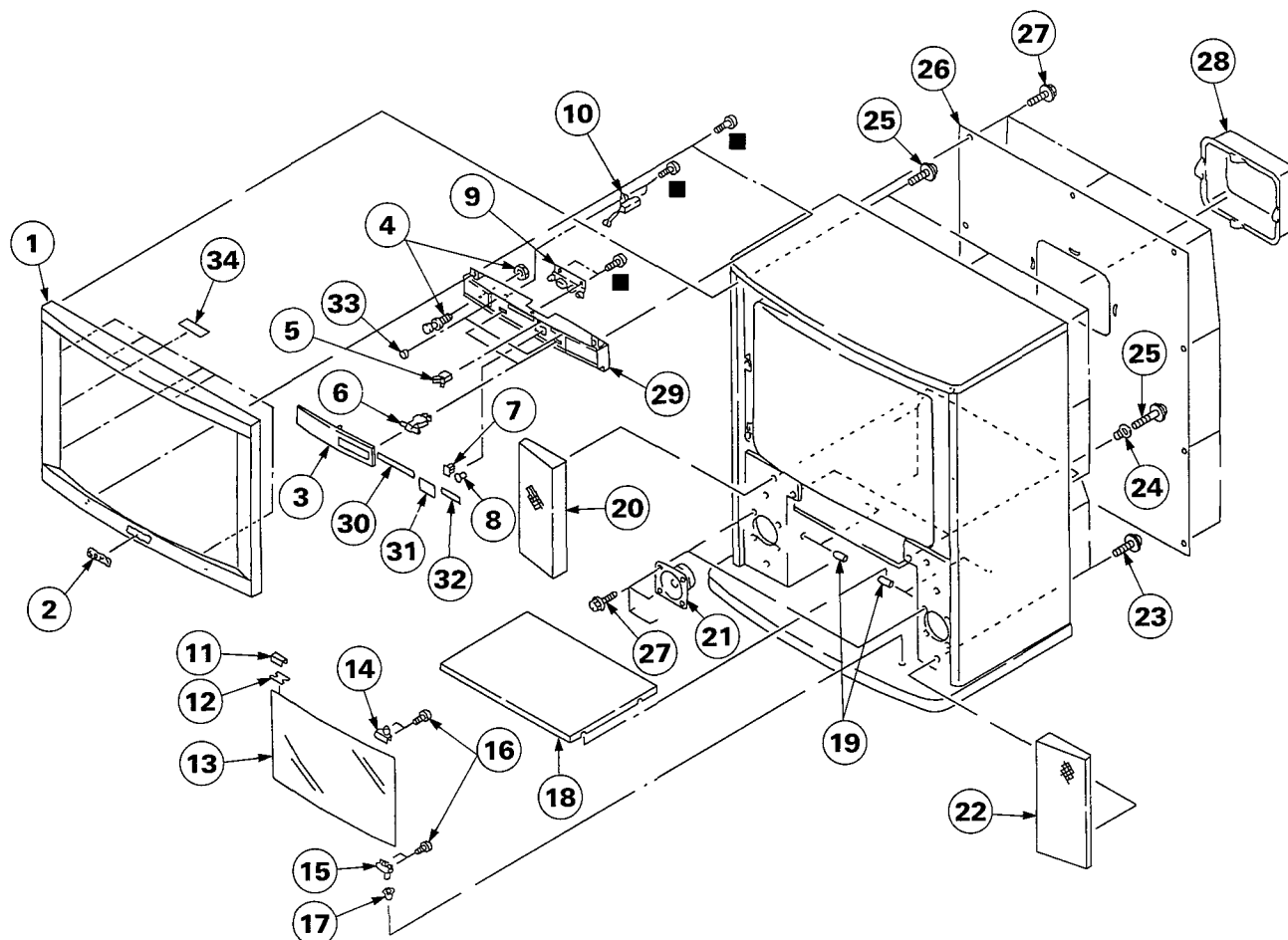
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark  are critical for safety.  
Replace only with part number specified

### 7-1. COVER

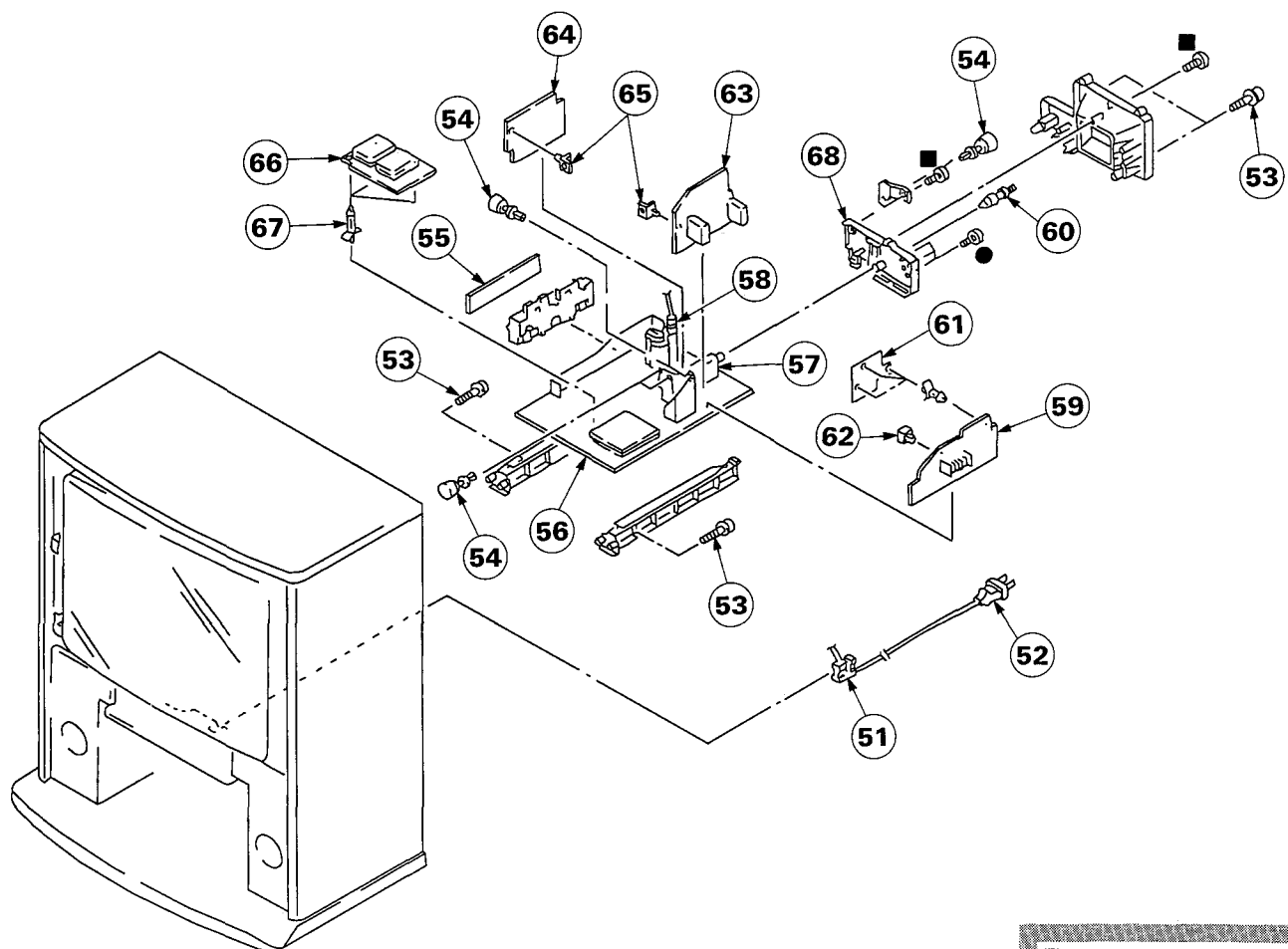
■: BVTP4×16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-032-337-01	BEZEL		18	4-032-590-01	PLATE, RACK	
2	3-704-179-12	EMBLEM (NO.9), SONY		19	4-032-323-01	PIN, RACK	
3	X-4029-792-1	DOOR ASSY, CONTROL		20	X-4029-735-1	FRAME ASSY (LEFT), SP GRILLE	
4	4-032-322-02	MAGNET, PLSH		21	1-544-556-11	SPEAKER (10CM)	
5	4-392-036-01	CATCHER, PLSH		22	X-4029-734-1	FRAME ASSY (RIGHT), SP GRILLE	
6	3-703-035-11	SHAFT, LID		23	4-384-096-01	SCREW (4X16), TAPPING, +P	
7	*4-032-389-01	PLATE, LIGHT GUIDE		24	*4-349-110-00	HOLDER, SCREW	
8	*4-389-517-01	GUIDE (R), LIGHT		25	4-319-520-11	SCREW, SPECIAL (~PW4X30)	
9	X-4029-885-1	BUTTON ASSY, MULTI		26	*4-032-332-01	BOARD, REAR	
10	*4-032-393-01	DAMPER		27	4-378-522-01	SCREW, TAPPING, HEXAGON HEAD	
11	2-359-505-01	RETAINER, MAGNET		28	*4-032-338-01	COVER, NECK	
12	2-352-981-01	SPACER		29	4-032-330-01	PANEL, CONTROL	
13	X-4029-793-1	DOOR ASSY, GLASS		30	4-032-392-11	LABEL (CONTROL) (BUTTON)	
14	4-394-244-01	HINGE (A)		31	4-032-391-11	PLATE, INDICATION	
15	4-394-243-01	HINGE (B)		32	4-032-390-11	LABEL (CONTROL) (A/V)	
16	2-112-355-01	SCREW		33	4-314-871-00	CUSHION	
17	2-112-350-01	BEARING		34	3-551-305-21	CUSHION, PANEL	

## 7-2. CHASSIS

- : BVTP3×12 7-685-648-79  
■: BVTP4×16 7-685-663-79



The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

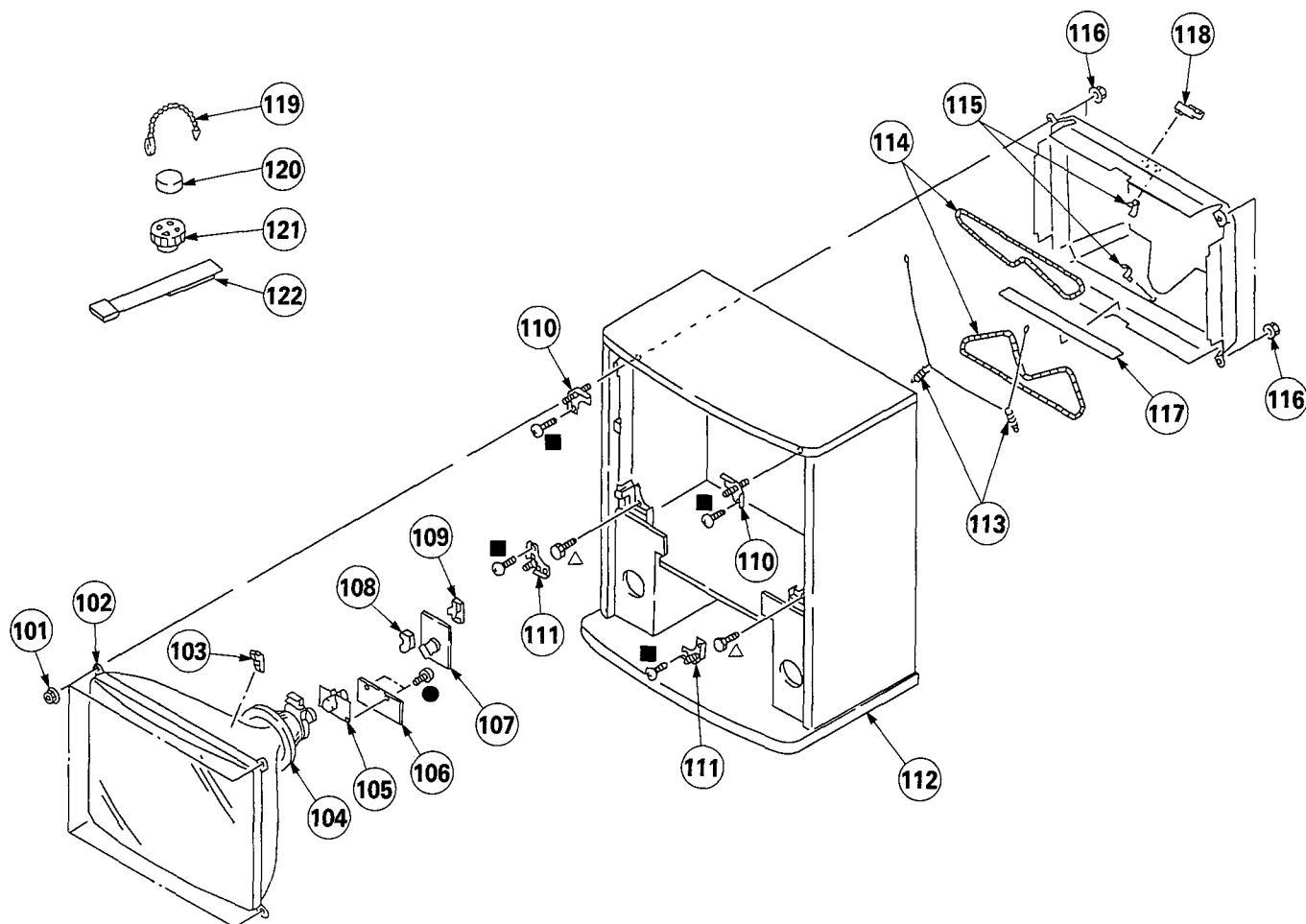
REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	<b>A</b> 4-357-726-02	HOLDER, AC CORD		60	1-573-657-11	PLUG, F-PIN	
52	<b>A</b> 1-590-492-21	CORD, POWER (WITH CONNECTOR)		61	4-033-125-01	PLATE, SHIELD	
53	4-319-520-11	SCREW, SPECIAL (+PW4X30)		62	*4-032-236-01	HOLDER (B), PC BOARD	
54	*4-397-418-01	RIVET, T TYPE		63	*A-1296-832-A	A BOARD, COMPLETE	
55	*1-638-095-11	F BOARD		64	*A-1345-954-A	E BOARD, COMPLETE	
56	*A-1345-955-A	D BOARD, COMPLETE		65	*4-397-417-01	HOLDER, PC BOARD	
57	<b>A</b> 1-465-371-11	TUNER, ET (BTP-RA401)		66	*A-1347-053-A	V BOARD, COMPLETE	
58	<b>A</b> 1-439-502-11	TRANSFORMER ASSY, FLYBACK (NX-2600A3)		67	*3-703-353-10	SUPPORT, PC BOARD	
59	*A-1135-682-A	B BOARD, COMPLETE		68	X-4029-754-1	TERMINAL BOARD ASSY, ANTENNA	

## 7-3. PICTURE TUBE

●: BVTP3×12 7-685-648-79

■: BVTP4×16 7-685-663-79

△: BOLT, HEXAGON 5×20 7-683-340-07



The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

REF.NO	PART NO.	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
101	4-387-204-01	NUT, SPECIAL, PICTURE TUBE		112	*X-4029-801-2	CABINET ASSY	
102	△ 8-733-723-05	PICTURE TUBE (A80JYV50X)		113	4-369-318-00	SPRING, TENSION	
103	3-704-495-01	SPACER, DY		114	△ 1-426-356-11	COIL, DEMAGNETIZATION	
104	△ 1-451-315-11	DEFLECTION YOKE (Y34FXA)		115	*4-371-629-01	STOPPER, WIRE	
105	△ 1-452-579-21	NECK ASSY, PICTURE TUBE (NA322)		116	4-306-034-00	FLANGE NUT, (B) 5MM	
106	*A-1371-749-A	W BOARD, COMPLETE		117	4-385-725-01	SHEET, BLOTING	
107	*A-1331-128-A	C BOARD, COMPLETE		118	*4-387-284-01	HOLDER, LEAD	
108	*4-379-167-01	COVER (MAIN), CV		119	4-308-870-00	CLIP, LEAD WIRE	
109	*4-379-160-01	COVER (REAR LID), CV		120	1-452-032-00	MAGNET, DISK; 10MM φ	
110	4-383-180-11	BRACKET (A), PICTURE TUBE		121	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
111	4-383-181-11	BRACKET (B), PICTURE TUBE		122	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	



**B**SECTION 8  
ELECTRICAL PARTS LIST

## NOTE:

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## RESISTORS

- All resistors are in ohms
- F : nonflammable


When indicating parts by reference number, please include the board name.


## CAPACITORS

MF :  $\mu$ F, PF :  $\mu$ F

## COILS

MMH : mH, UH :  $\mu$ H

- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1135-682-A	B BOARD, COMPLETE *****		C1407	1-130-471-00	MYLAR 0.001MF 5%	50V
	*4-341-752-01	EYELET (EY18-EY20)		C1408	1-124-925-11	ELECT 2.2MF 20%	50V
	4-382-854-11	SCREW (M3X10), P, SW (-)		C1409	1-124-925-11	ELECT 2.2MF 20%	50V
				C1410	1-124-120-11	ELECT 220MF 20%	25V
				C1411	1-126-233-11	ELECT 22MF 20%	25V
				C1412	1-124-120-11	ELECT 220MF 20%	25V
		<CONNECTOR>		C1413	1-136-173-00	FILM 0.47MF 5%	50V
B1	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P		C1414	1-124-907-11	ELECT 10MF 20%	50V
B2	*1-564-506-11	PLUG, CONNECTOR 3P		C1415	1-136-169-00	FILM 0.22MF 5%	50V
B3	*1-564-509-11	PLUG, CONNECTOR 6P		C1416	1-124-563-11	ELECT 2200MF 20%	25V
B4	*1-564-506-11	PLUG, CONNECTOR 3P		C1417	1-136-169-00	FILM 0.22MF 5%	50V
B6	*1-564-508-11	PLUG, CONNECTOR 5P		C1418	1-124-563-11	ELECT 2200MF 20%	25V
B7	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P		C1419	1-124-563-11	ELECT 2200MF 20%	25V
B10	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P		C1422	1-163-025-11	CERAMIC CHIP 0.001MF	50V
		<CAPACITOR>				<DIODE>	
C301	1-124-282-00	ELECT 22MF 20%	16V	D301	8-719-158-39	DIODE RD10S-B	
C302	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V	D302	8-719-158-39	DIODE RD10S-B	
C303	1-126-233-11	ELECT 22MF 20%	25V	D303	8-719-158-39	DIODE RD10S-B	
C306	1-163-105-00	CERAMIC CHIP 33PF 5%	50V	D304	8-719-404-46	DIODE MA110	
C307	1-163-133-00	CERAMIC CHIP 470PF 5%	50V	D305	8-719-404-46	DIODE MA110	
C308	1-124-903-11	ELECT 1MF 20%	50V	D306	8-719-109-81	DIODE RD4.7ES-B2	
C310	1-163-038-00	CERAMIC CHIP 0.1MF 25V		D307	8-719-158-39	DIODE RD10S-B	
C312	1-163-038-00	CERAMIC CHIP 0.1MF 25V		D308	8-719-158-39	DIODE RD10S-B	
C313	1-124-925-11	ELECT 2.2MF 20%	50V	D309	8-719-158-39	DIODE RD10S-B	
C314	1-126-233-11	ELECT 22MF 20%	25V	D310	8-719-158-39	DIODE RD10S-B	
C315	1-124-907-11	ELECT 10MF 20%	50V			<DELAY LINE>	
C316	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V	DL301	1-415-851-11	DELAY LINE	
C317	1-163-097-00	CERAMIC CHIP 15PF 5%	50V	DL302	1-415-851-11	DELAY LINE	
C318	1-164-222-11	CERAMIC CHIP 0.22MF 25V				<FILTER>	
C319	1-163-018-00	CERAMIC CHIP 0.0056MF 10%	50V	FL301	1-239-151-11	FILTER, HIGH PASS	
C320	1-126-101-11	ELECT 100MF 20%	16V			<IC>	
C321	1-124-907-11	ELECT 10MF 20%	50V	IC301	8-759-518-39	IC TDA3569B/N2	
C322	1-124-903-11	ELECT 1MF 20%	50V	IC302	8-752-012-52	IC CX20125	
C323	1-124-477-11	ELECT 47MF 20%	16V	IC1400	8-759-980-43	IC TDA2009A	
C324	1-124-907-11	ELECT 10MF 20%	50V			<COIL>	
C325	1-124-907-11	ELECT 10MF 20%	50V	L304	1-408-405-00	INDUCTOR 4.7UH	
C326	1-124-927-11	ELECT 4.7MF 20%	50V			<TRANSISTOR>	
C327	1-124-907-11	ELECT 10MF 20%	50V	Q301	8-729-920-74	TRANSISTOR 2SC2412K-QR	
C328	1-163-113-00	CERAMIC CHIP 68PF 5%	50V	Q302	8-729-216-22	TRANSISTOR 2SA1162-G	
C329	1-124-927-11	ELECT 4.7MF 20%	50V				
C330	1-126-233-11	ELECT 22MF 20%	25V				
C331	1-164-222-11	CERAMIC CHIP 0.22MF 25V					
C332	1-163-035-00	CERAMIC CHIP 0.047MF 50V					
C333	1-126-233-11	ELECT 22MF 20%	25V				
C1402	1-124-903-11	ELECT 1MF 20%	50V				
C1403	1-124-907-11	ELECT 10MF 20%	50V				
C1404	1-124-903-11	ELECT 1MF 20%	50V				
C1405	1-124-925-11	ELECT 2.2MF 20%	50V				
C1406	1-130-471-00	MYLAR 0.001MF 5%	50V				

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q303	8-729-119-78	TRANSISTOR 2SC2785-HFE		R345	1-216-075-00	METAL GLAZE 12K 5%	1/10W
Q304	8-729-920-74	TRANSISTOR 2SC2412K-QR		R346	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q305	8-729-920-74	TRANSISTOR 2SC2412K-QR		R347	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q306	8-729-216-22	TRANSISTOR 2SA1162-G		R348	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q307	8-729-920-74	TRANSISTOR 2SC2412K-QR		R349	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
Q308	8-729-119-78	TRANSISTOR 2SC2785-HFE		R350	1-216-075-00	METAL GLAZE 12K 5%	1/10W
Q309	8-729-920-74	TRANSISTOR 2SC2412K-QR		R351	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q310	8-729-920-74	TRANSISTOR 2SC2412K-QR		R352	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q311	8-729-920-74	TRANSISTOR 2SC2412K-QR		R353	1-216-037-00	METAL GLAZE 330 5%	1/10W
Q312	8-729-920-74	TRANSISTOR 2SC2412K-QR		R354	1-216-075-00	METAL GLAZE 12K 5%	1/10W
Q313	8-729-920-74	TRANSISTOR 2SC2412K-QR		R355	1-216-075-00	METAL GLAZE 12K 5%	1/10W
Q314	8-729-216-22	TRANSISTOR 2SA1162-G		R356	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q315	8-729-920-74	TRANSISTOR 2SC2412K-QR		R357	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
Q316	8-729-920-74	TRANSISTOR 2SC2412K-QR		R358	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
Q317	8-729-920-74	TRANSISTOR 2SC2412K-QR		R359	1-216-109-00	METAL GLAZE 330K 5%	1/10W
Q318	8-729-920-74	TRANSISTOR 2SC2412K-QR		R360	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q330	8-729-920-74	TRANSISTOR 2SC2412K-QR		R361	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q1400	8-729-920-74	TRANSISTOR 2SC2412K-QR		R362	1-216-083-00	METAL GLAZE 27K 5%	1/10W
Q1401	8-729-920-74	TRANSISTOR 2SC2412K-QR		R363	1-216-117-00	METAL GLAZE 680K 5%	1/10W
Q1402	8-729-920-74	TRANSISTOR 2SC2412K-QR		R364	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q1403	8-729-216-22	TRANSISTOR 2SA1162-G		R365	1-216-025-00	METAL GLAZE 100 5%	1/10W
<RESISTOR>				R366	1-216-045-00	METAL GLAZE 680 5%	1/10W
R301	1-216-091-00	METAL GLAZE 56K 5%	1/10W	R367	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R302	1-216-075-00	METAL GLAZE 12K 5%	1/10W	R368	1-216-025-00	METAL GLAZE 100 5%	1/10W
R303	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R369	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R304	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R370	1-216-045-00	METAL GLAZE 680 5%	1/10W
R305	1-216-041-00	METAL GLAZE 470 5%	1/10W	R371	1-216-025-00	METAL GLAZE 100 5%	1/10W
R306	1-216-113-00	METAL GLAZE 470K 5%	1/10W	R372	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R307	1-216-121-00	METAL GLAZE 1M 5%	1/10W	R373	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R308	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W	R374	1-216-033-00	METAL GLAZE 220 5%	1/10W
R309	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R375	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R311	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R376	1-216-037-00	METAL GLAZE 330 5%	1/10W
R312	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R377	1-247-688-11	CARBON 10 5%	1/4W F
R313	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R378	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R314	1-216-295-00	METAL GLAZE 0 5%	1/10W	R379	1-216-025-00	METAL GLAZE 100 5%	1/10W
R315	1-216-295-00	METAL GLAZE 0 5%	1/10W	R380	1-216-041-00	METAL GLAZE 470 5%	1/10W
R316	1-216-033-00	METAL GLAZE 220 5%	1/10W	R381	1-216-033-00	METAL GLAZE 220 5%	1/10W
R318	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R382	1-216-033-00	METAL GLAZE 220 5%	1/10W
R319	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R383	1-216-033-00	METAL GLAZE 220 5%	1/10W
R320	1-216-033-00	METAL GLAZE 220 5%	1/10W	R384	1-216-033-00	METAL GLAZE 220 5%	1/10W
R321	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R385	1-216-033-00	METAL GLAZE 220 5%	1/10W
R322	1-216-033-00	METAL GLAZE 220 5%	1/10W	R386	1-216-121-00	METAL GLAZE 1M 5%	1/10W
R323	1-216-033-00	METAL GLAZE 220 5%	1/10W	R387	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R324	1-216-033-00	METAL GLAZE 220 5%	1/10W	R388	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R325	1-216-033-00	METAL GLAZE 220 5%	1/10W	R1401	1-216-025-00	METAL GLAZE 100 5%	1/10W
R326	1-216-033-00	METAL GLAZE 220 5%	1/10W	R1403	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R327	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R1405	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R329	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1406	1-216-025-00	METAL GLAZE 100 5%	1/10W
R330	1-216-037-00	METAL GLAZE 330 5%	1/10W	R1409	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R331	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R1410	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R332	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R1411	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R333	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R1412	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R334	1-216-033-00	METAL GLAZE 220 5%	1/10W	R1413	1-216-295-00	METAL GLAZE 0 5%	1/10W
R335	1-216-045-00	METAL GLAZE 680 5%	1/10W	R1414	1-216-295-00	METAL GLAZE 0 5%	1/10W
R336	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R1415	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R337	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R1416	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R338	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R1417	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R339	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R1418	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R340	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R1419	1-216-041-00	METAL GLAZE 470 5%	1/10W
R342	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W	R1420	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R343	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R1421	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R344	1-216-025-00	METAL GLAZE 100 5%	1/10W	R1422	1-216-011-00	METAL GLAZE 27 5%	1/10W
				R1423	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W

B

F

A

The components identified by shading and mark  $\Delta$  are critical for safety  
Replace only with part number specified

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R1424	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W		R1584	1-215-880-00	METAL OXIDE 10 5% 2W F	
R1425	1-216-011-00	METAL GLAZE 27 5% 1/10W				<RELAY>	
R1426	1-216-298-00	METAL GLAZE 2.2 5% 1/10W		RY680A	1-515-684-22	RELAY	
R1427	1-216-298-00	METAL GLAZE 2.2 5% 1/10W				<TRANSFORMER>	
R1428	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W		T680 A	1-424-220-21	TRANSFORMER, LINE FILTER	
R1429	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W		T681 A	1-424-546-11	TRANSFORMER, LINE FILTER	
		<VARIABLE RESISTOR>				<THERMISTOR>	
RV301	1-238-011-11	RES, ADJ, CARBON 470		THP601A	1-808-081-14	THERMISTOR, POSITIVE	
RV302	1-238-017-11	RES, ADJ, CARBON 22K				*****	
RV303	1-238-014-11	RES, ADJ, CARBON 3.3K				*A-1296-832-A A BOARD, COMPLETE	
RV1400	1-238-015-11	RES, ADJ, CARBON 4.7K				*****	
		<SWITCH>				<CONNECTOR>	
S751	1-554-186-00	SWITCH, LEVER		A1	*1-564-508-11	PLUG, CONNECTOR 5P	
		<CRYSTAL>		A3	1-573-301-11	CONNECTOR, BOARD TO BOARD 20P	
X301	1-567-505-11	OSCILLATOR, CRYSTAL		A4	1-573-301-11	CONNECTOR, BOARD TO BOARD 20P	
		*****		A11	*1-564-514-11	PLUG, CONNECTOR 11P	
		*1-638-095-11 F BOARD				<CAPACITOR>	
		*****		C202	1-130-471-00	MYLAR 0.001MF 5% 50V	
		1-533-223-11 CLIP, FUSE		C203	1-126-233-11	ELECT 22MF 20% 50V	
		*4-341-751-01 EYELET (EY3~EY12,EY14,EY15,EY22~EY24)		C204	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
		*4-341-752-01 EYELET (EY1,EY2,EY13)		C207	1-136-163-00	FILM 0.068MF 5% 50V	
		<CAPACITOR>		C209	1-136-165-00	FILM 0.1MF 5% 50V	
C680 A	1-136-311-51	FILM 0.47MF 20% 125V		C210	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V	
C681 A	1-161-741-51	CERAMIC 0.001MF 10% 400V		C211	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V	
C682 A	1-136-311-51	FILM 0.47MF 20% 125V		C213	1-136-161-00	FILM 0.047MF 5% 50V	
C685	1-161-754-00	CERAMIC 0.001MF 10% 3KV		C215	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
		<DIODE>		C216	1-126-233-11	ELECT 22MF 20% 25V	
D680	8-719-911-55	DIODE U05G		C217	1-126-233-11	ELECT 22MF 20% 25V	
D1580	8-719-911-55	DIODE U05G		C218	1-124-903-11	ELECT 1MF 20% 50V	
D1581	8-719-911-55	DIODE U05G		C219	1-163-007-11	CERAMIC CHIP 680PF 10% 50V	
		<CONNECTOR>		C220	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	
F1	*1-580-843-11	PIN, CONNECTOR (POWER)		C222	1-126-233-11	ELECT 22MF 20% 25V	
F3	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		C224	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	
F4	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		C225	1-124-903-11	ELECT 1MF 20% 50V	
F5	*1-559-991-21	CONNECTOR ASSY 1P		C226	1-126-101-11	ELECT 100MF 20% 16V	
F7	*1-508-767-00	PIN, CONNECTOR (5MM PITCH) 5P		C233	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
F8	*1-564-506-11	PLUG, CONNECTOR 3P		C234	1-124-477-11	ELECT 47MF 20% 16V	
F9	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P		C235	1-130-729-00	FILM 0.0027MF 5% 50V	
F18	1-564-507-11	PLUG, CONNECTOR 4P		C237	1-124-907-11	ELECT 10MF 20% 50V	
		<FUSE>		C241	1-136-153-00	FILM 0.01MF 5% 50V	
F601 A	1-532-748-11	FUSE, GLASS TUBE 6.3A/125V		C242	1-136-153-00	FILM 0.01MF 5% 50V	
		<RESISTOR>		C251	1-136-169-00	FILM 0.22MF 5% 50V	
R680 A	1-202-723-91	SOLID 2.2M 10% 1/2W		C254	1-124-907-11	ELECT 10MF 20% 50V	
R681 A	1-202-723-91	SOLID 2.2M 10% 1/2W		C274	1-124-477-11	ELECT 47MF 20% 25V	
R683	1-202-525-00	SOLID 10 10% 1/2W		C275	1-164-005-11	CERAMIC CHIP 0.47MF 25V	
R1580	1-216-447-00	METAL OXIDE 27 5% 2W F		C278	1-101-006-00	CERAMIC 0.047MF 50V	
R1581	1-215-883-11	METAL OXIDE 33 5% 2W F		C287	1-101-006-00	CERAMIC 0.047MF 50V	
				C401	1-126-233-11	ELECT 22MF 20% 25V	
				C402	1-124-903-11	ELECT 1MF 20% 50V	
				C403	1-124-903-11	ELECT 1MF 20% 50V	
				C404	1-124-903-11	ELECT 1MF 20% 50V	
				C405	1-124-903-11	ELECT 1MF 20% 50V	

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C406	1-126-233-11	ELECT 22MF	20% 25V	R204	1-216-105-00	METAL GLAZE 220K	5% 1/10W
C407	1-126-233-11	ELECT 22MF	20% 25V	R206	1-216-091-00	METAL GLAZE 56K	5% 1/10W
C410	1-126-233-11	ELECT 22MF	20% 25V	R207	1-216-101-00	METAL GLAZE 150K	5% 1/10W
C412	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	R208	1-216-091-00	METAL GLAZE 56K	5% 1/10W
C413	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	R209	1-216-049-00	METAL GLAZE 1K	5% 1/10W
C422	1-124-477-11	ELECT 47MF	20% 16V	R210	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
<DIODE>				R211	1-216-089-00	METAL GLAZE 47K	5% 1/10W
D401	8-719-158-39	DIODE RD10S-B		R212	1-216-085-00	METAL GLAZE 33K	5% 1/10W
D402	8-719-158-39	DIODE RD10S-B		R213	1-216-061-00	METAL GLAZE 3.3K	5% 1/10W
D403	8-719-158-39	DIODE RD10S-B		R214	1-216-095-00	METAL GLAZE 82K	5% 1/10W
D404	8-719-158-39	DIODE RD10S-B		R219	1-216-073-00	METAL GLAZE 10K	5% 1/10W
D405	8-719-158-39	DIODE RD10S-B		R220	1-216-061-00	METAL GLAZE 3.3K	5% 1/10W
D406	8-719-158-39	DIODE RD10S-B		R226	1-216-037-00	METAL GLAZE 330	5% 1/10W
D407	8-719-158-39	DIODE RD10S-B		R227	1-216-089-00	METAL GLAZE 47K	5% 1/10W
D408	8-719-158-39	DIODE RD10S-B		R228	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
D409	8-719-158-39	DIODE RD10S-B		R229	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
<IC>				R230	1-216-049-00	METAL GLAZE 1K	5% 1/10W
IC201	8-759-510-90	IC TDA8302		R231	1-216-295-00	METAL GLAZE 0	5% 1/10W
IC202	8-759-982-25	IC RC78L09A		R232	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
IC203	8-759-982-37	IC RC78M93FD		R234	1-216-049-00	METAL GLAZE 1K	5% 1/10W
MM201	8-741-637-11	IC SBX1637-11		R237	1-216-033-00	METAL GLAZE 220	5% 1/10W
<IF BLOCK>				R238	1-216-049-00	METAL GLAZE 1K	5% 1/10W
IF201	1-464-756-21	IF BLOCK (IFF-450A)		R239	1-216-049-00	METAL GLAZE 1K	5% 1/10W
<JACK>				R249	1-216-025-00	METAL GLAZE 100	5% 1/10W
J401	1-566-846-11	CONNECTOR, (S) TERMINAL 4P		R250	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
J402	1-573-658-11	JACK BLOCK, PIN 7P		R251	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
<COIL>				R252	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
L201	1-410-792-31	INDUCTOR 0.82UH		R253	1-216-025-00	METAL GLAZE 100	5% 1/10W
<TRANSISTOR>				R255	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q201	8-729-920-74	TRANSISTOR 2SC2412K-QR		R256	1-216-083-00	METAL GLAZE 27K	5% 1/10W
Q203	8-729-920-74	TRANSISTOR 2SC2412K-QR		R257	1-216-099-00	METAL GLAZE 120K	5% 1/10W
Q209	8-729-216-22	TRANSISTOR 2SA1162-G		R258	1-216-025-00	METAL GLAZE 100	5% 1/10W
Q401	8-729-920-74	TRANSISTOR 2SC2412K-QR		R260	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
Q406	8-729-920-74	TRANSISTOR 2SC2412K-QR		R261	1-216-073-00	METAL GLAZE 10K	5% 1/10W
<RESISTOR>				R265	1-216-063-00	METAL GLAZE 3.9K	5% 1/10W
JR201	1-216-295-00	METAL GLAZE 0	5% 1/10W	R266	1-216-049-00	METAL GLAZE 1K	5% 1/10W
JR202	1-216-295-00	METAL GLAZE 0	5% 1/10W	R267	1-216-049-00	METAL GLAZE 1K	5% 1/10W
JR207	1-216-295-00	METAL GLAZE 0	5% 1/10W	R270	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR215	1-216-295-00	METAL GLAZE 0	5% 1/10W	R271	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
JR216	1-216-295-00	METAL GLAZE 0	5% 1/10W	R272	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR217	1-216-295-00	METAL GLAZE 0	5% 1/10W	R273	1-249-482-11	CARBON 4.7	5% 1/2W F
JR220	1-216-295-00	METAL GLAZE 0	5% 1/10W	R290	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
JR221	1-216-295-00	METAL GLAZE 0	5% 1/10W	R291	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
JR222	1-216-295-00	METAL GLAZE 0	5% 1/10W	R292	1-216-129-00	METAL GLAZE 2.2M	5% 1/10W
JR223	1-216-295-00	METAL GLAZE 0	5% 1/10W	R293	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
JR224	1-216-295-00	METAL GLAZE 0	5% 1/10W	R294	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
JR230	1-216-295-00	METAL GLAZE 0	5% 1/10W	R295	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
R200	1-216-051-00	METAL GLAZE 1.2K	5% 1/10W	R296	1-216-295-00	METAL GLAZE 0	5% 1/10W
R201	1-216-085-00	METAL GLAZE 33K	5% 1/10W	R401	1-216-023-00	METAL GLAZE 82	5% 1/10W
R202	1-216-049-00	METAL GLAZE 1K	5% 1/10W	R402	1-216-079-00	METAL GLAZE 18K	5% 1/10W
R403	1-216-103-00	METAL GLAZE 180K	5% 1/10W	R403	1-216-103-00	METAL GLAZE 180K	5% 1/10W
R404	1-216-079-00	METAL GLAZE 18K	5% 1/10W	R404	1-216-079-00	METAL GLAZE 18K	5% 1/10W
R405	1-216-103-00	METAL GLAZE 180K	5% 1/10W	R405	1-216-103-00	METAL GLAZE 180K	5% 1/10W
R406	1-216-079-00	METAL GLAZE 18K	5% 1/10W	R406	1-216-079-00	METAL GLAZE 18K	5% 1/10W
R407	1-216-103-00	METAL GLAZE 180K	5% 1/10W	R407	1-216-103-00	METAL GLAZE 180K	5% 1/10W
R408	1-216-079-00	METAL GLAZE 18K	5% 1/10W	R408	1-216-079-00	METAL GLAZE 18K	5% 1/10W
R409	1-216-103-00	METAL GLAZE 180K	5% 1/10W	R409	1-216-103-00	METAL GLAZE 180K	5% 1/10W
R410	1-216-023-00	METAL GLAZE 82	5% 1/10W	R410	1-216-023-00	METAL GLAZE 82	5% 1/10W
R411	1-216-023-00	METAL GLAZE 82	5% 1/10W	R411	1-216-023-00	METAL GLAZE 82	5% 1/10W
R412	1-216-049-00	METAL GLAZE 1K	5% 1/10W	R412	1-216-049-00	METAL GLAZE 1K	5% 1/10W
R413	1-216-097-00	METAL GLAZE 100K	5% 1/10W	R413	1-216-097-00	METAL GLAZE 100K	5% 1/10W
R414	1-216-049-00	METAL GLAZE 1K	5% 1/10W	R414	1-216-049-00	METAL GLAZE 1K	5% 1/10W
R415	1-216-097-00	METAL GLAZE 100K	5% 1/10W	R415	1-216-097-00	METAL GLAZE 100K	5% 1/10W
R416	1-216-049-00	METAL GLAZE 1K	5% 1/10W	R416	1-216-049-00	METAL GLAZE 1K	5% 1/10W

A

C

E

The components identified by  
shading and mark  $\Delta$  are critical  
for safety  
Replace only with part number  
specified

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R417	1-216-073-00	METAL GLAZE 10K 5% 1/10W		Q702	8-729-326-11	TRANSISTOR 2SC2611	
R418	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W		Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R419	1-216-295-00	METAL GLAZE 0 5% 1/10W		Q704	8-729-326-11	TRANSISTOR 2SC2611	
R420	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W		Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R421	1-216-049-00	METAL GLAZE 1K 5% 1/10W		Q706	8-729-326-11	TRANSISTOR 2SC2611	
R422	1-216-049-00	METAL GLAZE 1K 5% 1/10W					
R431	1-216-025-00	METAL GLAZE 100 5% 1/10W					
R432	1-216-073-00	METAL GLAZE 10K 5% 1/10W					
R433	1-216-073-00	METAL GLAZE 10K 5% 1/10W					
R434	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W					

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C556	1-124-925-11	ELECT	2.2MF	20%	50V		
C557	1-124-925-11	ELECT	2.2MF	20%	50V		
C558	1-124-922-11	ELECT	1000MF	20%	50V		
C559	1-136-165-00	FILM	0.1MF	5%	50V		
C560	1-130-477-00	MYLAR	0.0033MF	5%	50V		
C561	1-106-367-00	MYLAR	0.01MF	10%	100V		
C562	1-124-907-11	ELECT	10MF	20%	50V		
C563	1-124-907-11	ELECT	10MF	20%	50V		
C564	1-124-925-11	ELECT	2.2MF	20%	50V		
C565	1-163-117-00	CERAMIC CHIP	100PF	5%	50V		
C566	1-136-159-00	FILM	0.033MF	5%	50V		
C567	1-130-477-00	MYLAR	0.0033MF	5%	50V		
C568	1-124-922-11	ELECT	1000MF	20%	50V		
C569	1-124-910-11	ELECT	47MF	20%	50V		
C570	1-126-233-11	ELECT	22MF	20%	50V		
C571	1-124-477-11	ELECT	47MF	20%	16V		
C572	1-124-911-11	ELECT	220MF	20%	50V		
C573	1-130-309-00	FILM	0.033MF	5%	100V		
C574	1-106-363-00	MYLAR	0.0068MF	10%	100V		
C575	1-124-478-11	ELECT	100MF	20%	25V		
C577	1-126-103-11	ELECT	470MF	20%	16V		
C578	1-124-480-11	ELECT	470MF	20%	25V		
C582	1-124-925-11	ELECT	2.2MF	20%	50V		
C583	1-124-927-11	ELECT	4.7MF	20%	50V		
C584	1-124-927-11	ELECT	4.7MF	20%	50V		
C1520	1-106-351-00	MYLAR	0.0022MF	10%	100V		
C1522	1-124-925-11	ELECT	2.2MF	20%	50V		
C1534	1-106-351-00	MYLAR	0.0022MF	10%	100V		
C1536	1-106-383-00	MYLAR	0.047MF	10%	100V		
C1538	1-124-907-11	ELECT	10MF	20%	50V		
C1539	1-124-925-11	ELECT	2.2MF	20%	50V		
C1540	1-106-343-00	MYLAR	0.001MF	10%	100V		
C1541	1-124-927-11	ELECT	4.7MF	20%	50V		
C1542	1-124-927-11	ELECT	4.7MF	20%	50V		
C1543	1-124-925-11	ELECT	2.2MF	20%	50V		
C1544	1-124-927-11	ELECT	4.7MF	20%	50V		
C1545	1-124-767-00	ELECT	2.2MF	20%	50V		
C1548	1-124-925-11	ELECT	2.2MF	20%	50V		
<DIODE>							
D552	8-719-110-72	DIODE RD30ES-B2					
D553	8-719-404-46	DIODE MA110					
D554	8-719-404-46	DIODE MA110					
D555	8-719-911-55	DIODE U05G					
D1520	8-719-109-88	DIODE RD5.6ES-B1					
D1521	8-719-404-46	DIODE MA110					
D1522	8-719-404-46	DIODE MA110					
D1523	8-719-404-46	DIODE MA110					
D1524	8-719-404-46	DIODE MA110					
<CONNECTOR>							
DY2	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P					
E2	*1-564-507-11	PLUG, CONNECTOR 4P					
E5	1-573-301-11	CONNECTOR, BOARD TO BOARD 20P					
<IC>							
IC551	8-759-945-58	IC RC4558P					
IC552	8-759-929-62	IC LM7812CT					
<COIL>							
L551	1-410-748-11	INDUCTOR	15MMH				
L552	1-459-104-00	COIL, WITH CORE					
<TRANSISTOR>							
Q551	8-729-920-74	TRANSISTOR	2SC2412K-QR				
Q552	8-729-920-74	TRANSISTOR	2SC2412K-QR				
Q553	8-729-920-74	TRANSISTOR	2SC2412K-QR				
Q554	8-729-107-78	TRANSISTOR	2SC3623-K				
Q555	8-729-107-78	TRANSISTOR	2SC3623-K				
Q556	8-729-122-03	TRANSISTOR	2SA1220A-P				
Q557	8-729-169-02	TRANSISTOR	2SC2690A-Q				
Q558	8-729-920-74	TRANSISTOR	2SC2412K-QR				
Q1520	8-729-920-74	TRANSISTOR	2SC2412K-QR				
<RESISTOR>							
R551	1-216-043-00	METAL GLAZE	560	5%	1/10W		
R552	1-216-029-00	METAL GLAZE	150	5%	1/10W		
R553	1-216-043-00	METAL GLAZE	560	5%	1/10W		
R554	1-216-043-00	METAL GLAZE	560	5%	1/10W		
R555	1-216-675-11	METAL CHIP	10K	0.50%	1/10W		
R556	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R557	1-215-869-11	METAL OXIDE	1K	5%	1W	F	
R558	1-216-047-00	METAL GLAZE	820	5%	1/10W		
R559	1-216-083-00	METAL GLAZE	27K	5%	1/10W		
R561	1-216-371-00	METAL OXIDE	1.5	5%	2W	F	
R562	1-216-295-00	METAL GLAZE	0	5%	1/10W		
R563	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W		
R564	1-216-043-00	METAL GLAZE	560	5%	1/10W		
R566	1-216-295-00	METAL GLAZE	0	5%	1/10W		
R567	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R568	1-247-700-11	CARBON	100	5%	1/4W	F	
R570	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W		
R571	1-216-085-00	METAL GLAZE	33K	5%	1/10W		
R572	1-216-089-00	METAL GLAZE	47K	5%	1/10W		
R573	1-216-089-00	METAL GLAZE	47K	5%	1/10W		
R574	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R575	1-216-089-00	METAL GLAZE	47K	5%	1/10W		
R576	1-216-089-00	METAL GLAZE	47K	5%	1/10W		
R577	1-247-688-11	CARBON	10	5%	1/4W	F	
R578	1-249-437-11	CARBON	47K	5%	1/4W		
R579	1-249-421-11	CARBON	2.2K	5%	1/4W		
R580	1-216-085-00	METAL GLAZE	33K	5%	1/10W		
R581	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R583	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W		
R584	1-249-425-11	CARBON	4.7K	5%	1/4W		
R585	1-216-085-00	METAL GLAZE	33K	5%	1/10W		
R586	1-249-426-11	CARBON	5.6K	5%	1/4W		
R587	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W		
R588	1-216-089-00	METAL GLAZE	47K	5%	1/10W		
R590	1-216-075-00	METAL GLAZE	12K	5%	1/10W		
R591	1-216-093-00	METAL GLAZE	68K	5%	1/10W		
R592	1-216-097-00	METAL GLAZE	100K	5%	1/10W		
R593	1-216-093-00	METAL GLAZE	68K	5%	1/10W		
R594	1-216-083-00	METAL GLAZE	27K	5%	1/10W		
R595	1-249-439-11	CARBON	68K	5%	1/4W		
R596	1-216-091-00	METAL GLAZE	56K	5%	1/10W		
R597	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
R598	1-216-091-00	METAL GLAZE	56K	5%	1/10W		
R599	1-249-397-11	CARBON	22	5%	1/4W		
R1501	1-249-397-11	CARBON	22	5%	1/4W		
R1502	1-249-414-11	CARBON	560	5%	1/4W		
R1503	1-216-085-00	METAL GLAZE	33K	5%	1/10W		

E

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1504	1-247-694-11	CARBON 33 5%	1/4W F	<SWITCH>			
R1505	1-249-423-11	CARBON 3.3K 5%	1/4W	S551	1-554-186-00	SWITCH, LEVER	
R1506	1-249-393-11	CARBON 10 5%	1/4W F	*****			
R1507	1-216-077-00	METAL GLAZE 15K 5%	1/10W	*A-1345-955-A	D BOARD, COMPLETE		
R1508	1-249-419-11	CARBON 1.5K 5%	1/4W	*****			
R1509	1-216-077-00	METAL GLAZE 15K 5%	1/10W	*4-032-240-01	SUPPORT, B		
R1510	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	*4-032-369-01	SHEET, RADIATION		
R1511	1-249-393-11	CARBON 10 5%	1/4W F	4-035-848-01	SHIELD (A), TRANS		
R1515	1-216-085-00	METAL GLAZE 33K 5%	1/10W	*4-341-751-01	EYELET (EY19, EY20, EY25~EY35, EY38~EY44, EY46, EY48~EY52, EY73~EY76, EY85~108)		
R1516	1-216-097-00	METAL GLAZE 100K 5%	1/10W	*4-341-752-01	EYELET (EY1, EY2, EY4~EY17, EY21~EY24, EY53, EY54, EY59, EY61, EY62, EY64, EY66~EY68, EY70~EY72, EY79~EY84)		
R1517	1-215-920-11	METAL OXIDE 3.3K 5%	3W F	*4-381-724-01	HOLDER, 1C		
R1520	1-216-091-00	METAL GLAZE 56K 5%	1/10W	4-382-854-11	SCREW (M3X10), P, SW (+)		
R1521	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W	*4-393-401-01	SPRING		
R1522	1-216-097-00	METAL GLAZE 100K 5%	1/10W	<CAPACITOR>			
R1523	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C101	1-124-907-11	ELECT 10MF	20% 50V
R1524	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C102	1-126-101-11	ELECT 100MF	20% 16V
R1525	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C104	1-126-101-11	ELECT 100MF	20% 16V
R1526	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C105	1-130-481-00	MYLAR 0.0068MF	5% 50V
R1527	1-216-295-00	METAL GLAZE 0 5%	1/10W	C106	1-130-483-00	MYLAR 0.01MF	5% 50V
R1528	1-216-295-00	METAL GLAZE 0 5%	1/10W	C107	1-124-499-11	ELECT 1MF	20% 50V
R1529	1-216-103-00	METAL GLAZE 180K 5%	1/10W	C108	1-124-499-11	ELECT 1MF	20% 50V
R1530	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C109	1-124-499-11	ELECT 1MF	20% 50V
R1531	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C110	1-124-903-11	ELECT 1MF	20% 50V
R1532	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C111	1-164-039-11	CERAMIC 3PF	0.25PF 50V
R1533	1-216-033-00	METAL GLAZE 220 5%	1/10W	C112	1-126-233-11	ELECT 22MF	20% 50V
R1534	1-216-025-00	METAL GLAZE 100 5%	1/10W	C113	1-164-054-11	CERAMIC 22PF	5% 50V
R1535	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C114	1-124-907-11	ELECT 10MF	20% 50V
R1536	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C115	1-124-907-11	ELECT 10MF	20% 50V
R1537	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C116	1-124-907-11	ELECT 10MF	20% 50V
R1538	1-216-113-00	METAL GLAZE 470K 5%	1/10W	C117	1-124-907-11	ELECT 10MF	20% 50V
R1539	1-216-113-00	METAL GLAZE 470K 5%	1/10W	C118	1-124-907-11	ELECT 10MF	20% 50V
R1540	1-216-105-00	METAL GLAZE 220K 5%	1/10W	C119	1-126-233-11	ELECT 22MF	20% 50V
R1541	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C120	1-130-483-00	MYLAR 0.01MF	5% 50V
R1544	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C121	1-101-006-00	CERAMIC 0.047MF	50V
R1545	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C122	1-164-066-11	CERAMIC 68PF	5% 50V
R1546	1-216-295-00	METAL GLAZE 0 5%	1/10W	C123	1-136-161-00	FILM 0.047MF	5% 50V
R1547	1-216-075-00	METAL GLAZE 12K 5%	1/10W	C124	1-102-978-00	CERAMIC 220PF	5% 50V
R1548	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C125	1-124-903-11	ELECT 1MF	20% 50V
R1549	1-216-079-00	METAL GLAZE 18K 5%	1/10W	C126	1-124-907-11	ELECT 10MF	20% 50V
R1550	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	C127	1-164-082-11	CERAMIC 560PF	10% 50V
R1551	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	C128	1-124-477-11	ELECT 47MF	20% 16V
R1552	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C129	1-130-479-00	MYLAR 0.0047MF	5% 50V
R1553	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C131	1-124-443-00	ELECT 100MF	20% 10V
R1554	1-247-753-11	CARBON 1.2K 5%	1/2W	C133	1-126-935-11	ELECT 470MF	20% 16V
R1561	1-247-753-11	CARBON 1.2K 5%	1/2W	C134	1-124-360-00	ELECT 1000MF	20% 16V
R1571	1-215-920-11	METAL OXIDE 3.3K 5%	3W F	C135	1-124-360-00	ELECT 1000MF	20% 16V
<VARIABLE RESISTOR>				C136	1-164-066-11	CERAMIC 68PF	5% 50V
RV550	1-237-288-11	RES, ADJ, CARBON 47K		C137	1-164-066-11	CERAMIC 68PF	5% 50V
RV551	1-238-543-11	RES, ADJ, CARBON 470		C138	1-164-066-11	CERAMIC 68PF	5% 50V
RV552	1-238-550-11	RES, ADJ, CARBON 100K		C139	1-164-066-11	CERAMIC 68PF	5% 50V
RV553	1-237-288-11	RES, ADJ, CARBON 47K		C140	1-164-066-11	CERAMIC 68PF	5% 50V
RV554	1-230-494-11	RES, ADJ, CARBON 1K		C141	1-164-066-11	CERAMIC 68PF	5% 50V
RV555	1-238-550-11	RES, ADJ, CARBON 100K		C142	1-124-903-11	ELECT 1MF	20% 50V
RV556	1-238-550-11	RES, ADJ, CARBON 100K		C143	1-124-360-00	ELECT 1000MF	20% 16V
RV557	1-230-496-11	RES, ADJ, CARBON 10K		C172	1-101-006-00	CERAMIC 0.047MF	50V
RV558	1-237-288-11	RES, ADJ, CARBON 47K					
RV559	1-230-496-11	RES, ADJ, CARBON 10K					
RV560	1-237-288-11	RES, ADJ, CARBON 47K					
RV561	1-238-076-11	RES, ADJ, CARBON 5K					
RV562	1-230-945-11	RES, ADJ, CARBON 470K					
RV563	1-238-076-11	RES, ADJ, CARBON 5K					

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
The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.










REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D8	*1-564-506-11	PLUG, CONNECTOR 3P		D619	8-719-510-02	DIODE D1NS4	
D9	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P		D620	8-719-510-02	DIODE D1NS4	
D10	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P		D621	8-719-991-18	DIODE EGP30GL-6072	
D15	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)		D622	8-719-510-02	DIODE D1NS4	
D18	1-564-507-11	PLUG, CONNECTOR 4P					
D20	*1-564-513-11	PLUG, CONNECTOR 10P				<FUSE>	
DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P		F602	$\Delta$ 1-576-105-21	FUSE 2.5A/250V	
JL21	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P			1-533-223-11	CLIP, FUSE; F602	
		<DIODE>				<FERRITE BEAD>	
D101	8-719-110-78	DIODE RD33ES-B2		FB101	1-412-911-11	INDUCTOR, FERRITE BEAD	
D103	8-719-109-74	DIODE RD4.3ES-B1		FB601	1-412-911-11	INDUCTOR, FERRITE BEAD	
D104	8-719-911-19	DIODE 1SS119		FB602	1-412-911-11	INDUCTOR, FERRITE BEAD	
D106	8-719-911-19	DIODE 1SS119		FB603	1-412-911-11	INDUCTOR, FERRITE BEAD	
D107	1-809-401-11	LED UNIT		FB604	1-412-911-11	INDUCTOR, FERRITE BEAD	
D108	1-809-401-11	LED UNIT		FB605	1-410-396-41	FERRITE BEAD INDUCTOR	
D109	8-719-911-19	DIODE 1SS119				<IC>	
D110	8-719-911-19	DIODE 1SS119		IC101	8-759-053-73	IC MC68HC05T7-LSC89921B	
D111	8-719-911-19	DIODE 1SS119		IC102	8-759-500-31	IC X24C01P	
D112	8-719-911-19	DIODE 1SS119		IC103	8-741-100-62	IC SBX1618-51	
D113	8-719-911-19	DIODE 1SS119		IC104	8-759-987-89	IC TDA8444	
D114	8-719-911-19	DIODE 1SS119		IC105	8-759-924-12	IC LM7805CT	
D115	8-719-109-84	DIODE RD5.1ES-B1		IC352	8-759-982-34	IC RC78M09FA	
D116	8-719-109-84	DIODE RD5.1ES-B1		IC354	8-759-710-68	IC NJM2245S	
D117	8-719-911-19	DIODE 1SS119		IC355	8-759-710-68	IC NJM2245S	
D118	8-719-911-19	DIODE 1SS119		IC431	8-759-820-63	IC LA7953	
D119	8-719-109-84	DIODE RD5.1ES-B1		IC501	8-759-402-35	IC AN5521	
D120	8-719-911-19	DIODE 1SS119		IC601A	$\Delta$ 1-809-120-21	MODULE, POWER DM-43	
D431	8-719-911-19	DIODE 1SS119		IC602	8-719-156-73	PHOTO COUPLER PS2501-1LB	
D432	8-719-911-19	DIODE 1SS119		IC605	8-759-929-62	IC LM7812CT	
D433	8-719-911-19	DIODE 1SS119		IC606	8-759-924-12	IC LM7805CT	
D434	8-719-911-19	DIODE 1SS119		IC607	8-719-156-73	PHOTO COUPLER PS2501-1LB	
D504	8-719-945-80	DIODE ERC06-15S				<JACK>	
D505	8-719-945-80	DIODE ERC06-15S		J403	1-573-659-11	JACK BLOCK, PIN 3P	
D506	8-719-900-26	DIODE ERD29-08J				<COIL>	
D507	8-719-302-43	DIODE EL1Z		L101	1-412-911-11	INDUCTOR, FERRITE BEAD	
D508	8-719-971-20	DIODE ERC38-06		L102	1-412-911-11	INDUCTOR, FERRITE BEAD	
D509	8-719-979-85	DIODE EGP20G		L106	1-410-669-31	INDUCTOR 33UH	
D510	8-719-300-33	DIODE RU-3AM		L502	1-422-613-11	COIL, AIR CORE	
D511	8-719-976-64	DIODE RGP02-17		L503	1-459-313-00	COIL WITH CORE (HWC)	
D512	8-719-200-02	DIODE 10E2		L504	1-459-104-00	COIL, DUST CORE	
D516	8-719-911-19	DIODE 1SS119		L505	1-408-235-00	INDUCTOR 2.2MMH	
D517	8-719-109-92	DIODE RD6.2ES-B1		L507	1-459-075-00	COIL, DYNAMIC CONVERSION CHOKE	
D531	1-130-777-00	FILM 0.1MF	10% 100V	L508	1-412-519-11	INDUCTOR 3.3UH	
D533	1-130-777-00	FILM 0.1MF	10% 100V	L509	1-412-529-11	INDUCTOR 22UH	
D601	8-719-911-19	DIODE 1SS119		L511	1-408-698-00	INDUCTOR 8.2UH	
D602	$\Delta$ 8-719-510-63	DIODE D4SB60L-F		L512	1-412-045-11	INDUCTOR 2.2MMH	
D603	8-719-510-48	DIODE D1N20R		L513	1-408-300-00	INDUCTOR 6.8UH	
D604	8-719-510-48	DIODE D1N20R				<MODULE>	
D605	8-719-510-48	DIODE D1N20R		PM501A	$\Delta$ 1-809-492-21	MODULE, PROTECTOR PM-24	
D606	8-719-510-48	DIODE D1N20R				<TRANSISTOR>	
D607	8-719-510-64	DIODE S2LA20F					
D608	8-719-510-64	DIODE S2LA20F					
D609	8-719-510-64	DIODE S2LA20F					
D610	8-719-510-64	DIODE S2LA20F					
D611	8-719-911-19	DIODE 1SS119					
D612	8-719-510-02	DIODE D1NS4					
D613	8-719-911-19	DIODE 1SS119					
D614	8-719-510-02	DIODE D1NS4					
D615	8-719-510-02	DIODE D1NS4					
D616	8-719-510-02	DIODE D1NS4					
D617	8-719-510-02	DIODE D1NS4					
D618	8-719-510-02	DIODE D1NS4					

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE		R131	1-249-429-11	CARBON 10K 5% 1/4W	
Q103	8-729-119-76	TRANSISTOR 2SA1175-HFE		R132	1-249-429-11	CARBON 10K 5% 1/4W	
Q104	8-729-119-78	TRANSISTOR 2SC2785-HFE		R133	1-249-409-11	CARBON 220 5% 1/4W	
Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE		R134	1-249-409-11	CARBON 220 5% 1/4W	
Q106	8-729-119-78	TRANSISTOR 2SC2785-HFE		R135	1-249-409-11	CARBON 220 5% 1/4W	
				R136	1-249-409-11	CARBON 220 5% 1/4W	
Q107	8-729-119-76	TRANSISTOR 2SA1175-HFE		R137	1-249-409-11	CARBON 220 5% 1/4W	
Q108	8-729-119-78	TRANSISTOR 2SC2785-HFE		R138	1-249-409-11	CARBON 220 5% 1/4W	
Q109	8-729-119-78	TRANSISTOR 2SC2785-HFE		R139	1-249-409-11	CARBON 220 5% 1/4W	
Q122	8-729-900-89	TRANSISTOR DTC144ES		R140	1-249-409-11	CARBON 220 5% 1/4W	
Q344	8-729-119-78	TRANSISTOR 2SC2785-HFE		R141	1-249-409-11	CARBON 220 5% 1/4W	
Q345	8-729-119-78	TRANSISTOR 2SC2785-HFE		R142	1-249-409-11	CARBON 220 5% 1/4W	
Q346	8-729-119-78	TRANSISTOR 2SC2785-HFE		R143	1-249-409-11	CARBON 220 5% 1/4W	
Q434	8-729-119-78	TRANSISTOR 2SC2785-HFE		R144	1-249-409-11	CARBON 220 5% 1/4W	
Q435	8-729-119-78	TRANSISTOR 2SC2785-HFE		R145	1-249-421-11	CARBON 2.2K 5% 1/4W	
Q436	8-729-119-76	TRANSISTOR 2SA1175-HFE		R146	1-249-421-11	CARBON 2.2K 5% 1/4W	
Q437	8-729-119-76	TRANSISTOR 2SA1175-HFE		R147	1-249-421-11	CARBON 2.2K 5% 1/4W	
Q438	8-729-119-76	TRANSISTOR 2SA1175-HFE		R148	1-249-409-11	CARBON 220 5% 1/4W	
Q439	8-729-119-76	TRANSISTOR 2SA1175-HFE		R149	1-249-409-11	CARBON 220 5% 1/4W	
Q501	8-729-119-80	TRANSISTOR 2SC2688-LK		R150	1-249-409-11	CARBON 220 5% 1/4W	
Q502	8-729-304-50	TRANSISTOR 2SD1941-06		R151	1-249-429-11	CARBON 10K 5% 1/4W	
Q503	8-729-141-89	TRANSISTOR 2SD1585-LK		R152	1-249-409-11	CARBON 220 5% 1/4W	
Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE		R153	1-249-429-11	CARBON 10K 5% 1/4W	
Q505	8-729-119-78	TRANSISTOR 2SC2785-HFE		R154	1-249-437-11	CARBON 47K 5% 1/4W	
Q601	8-729-927-22	TRANSISTOR 2SC4664MNP-F		R155	1-249-417-11	CARBON 1K 5% 1/4W	
Q602	8-729-927-22	TRANSISTOR 2SC4664MNP-F		R156	1-249-409-11	CARBON 220 5% 1/4W	
Q603	8-729-920-92	TRANSISTOR 2SD2096-EF		R157	1-249-417-11	CARBON 1K 5% 1/4W	
Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE		R158	1-249-429-11	CARBON 10K 5% 1/4W	
Q605	8-729-119-76	TRANSISTOR 2SA1175-HFE		R159	1-249-429-11	CARBON 10K 5% 1/4W	
Q606	8-729-119-78	TRANSISTOR 2SC2785-HFE		R160	1-249-405-11	CARBON 100 5% 1/4W	
Q610	8-729-200-17	TRANSISTOR 2SA1091-0		R161	1-215-923-00	METAL OXIDE 10K 5% 3W F	
Q613	8-729-931-43	TRANSISTOR 2SC4274-02F9		R162	1-249-417-11	CARBON 1K 5% 1/4W	
Q614	8-729-927-12	TRANSISTOR 2SC4115SQR		R163	1-247-883-00	CARBON 150K 5% 1/4W	
<RESISTOR>				R164	1-249-437-11	CARBON 47K 5% 1/4W	
R101	1-249-405-11	CARBON 100 5% 1/4W		R165	1-247-883-00	CARBON 150K 5% 1/4W	
R102	1-249-409-11	CARBON 220 5% 1/4W		R166	1-249-437-11	CARBON 47K 5% 1/4W	
R103	1-249-409-11	CARBON 220 5% 1/4W		R167	1-247-883-00	CARBON 150K 5% 1/4W	
R104	1-249-409-11	CARBON 220 5% 1/4W		R168	1-249-437-11	CARBON 47K 5% 1/4W	
R105	1-249-429-11	CARBON 10K 5% 1/4W		R169	1-249-427-11	CARBON 6.8K 5% 1/4W	
R106	1-249-437-11	CARBON 47K 5% 1/4W		R170	1-249-426-11	CARBON 5.6K 5% 1/4W	
R107	1-249-409-11	CARBON 220 5% 1/4W		R171	1-249-435-11	CARBON 33K 5% 1/4W	
R108	1-249-413-11	CARBON 470 5% 1/4W		R172	1-215-445-00	METAL 10K 1% 1/4W	
R109	1-249-413-11	CARBON 470 5% 1/4W		R173	1-215-437-00	METAL 4.7K 1% 1/4W	
R110	1-249-413-11	CARBON 470 5% 1/4W		R174	1-249-428-11	CARBON 8.2K 5% 1/4W	
R111	1-249-409-11	CARBON 220 5% 1/4W		R175	1-249-425-11	CARBON 4.7K 5% 1/4W	
R112	1-249-409-11	CARBON 220 5% 1/4W		R176	1-249-440-11	CARBON 82K 5% 1/4W	
R113	1-249-417-11	CARBON 1K 5% 1/4W		R177	1-215-439-00	METAL 5.6K 1% 1/4W	
R114	1-249-409-11	CARBON 220 5% 1/4W		R178	1-215-437-00	METAL 4.7K 1% 1/4W	
R116	1-215-405-00	METAL 220 1% 1/4W		R179	1-249-427-11	CARBON 6.8K 5% 1/4W	
R117	1-249-409-11	CARBON 220 5% 1/4W		R181	1-249-425-11	CARBON 4.7K 5% 1/4W	
R118	1-249-409-11	CARBON 220 5% 1/4W		R182	1-249-409-11	CARBON 220 5% 1/4W	
R119	1-249-429-11	CARBON 10K 5% 1/4W		R184	1-249-429-11	CARBON 10K 5% 1/4W	
R120	1-249-409-11	CARBON 220 5% 1/4W		R186	1-247-903-00	CARBON 1M 5% 1/4W	
R121	1-249-425-11	CARBON 4.7K 5% 1/4W		R187	1-249-441-11	CARBON 100K 5% 1/4W	
R122	1-249-409-11	CARBON 220 5% 1/4W		R188	1-247-903-00	CARBON 1M 5% 1/4W	
R123	1-249-409-11	CARBON 220 5% 1/4W		R189	1-249-429-11	CARBON 10K 5% 1/4W	
R124	1-249-409-11	CARBON 220 5% 1/4W		R190	1-249-429-11	CARBON 10K 5% 1/4W	
R125	1-249-430-11	CARBON 12K 5% 1/4W		R191	1-249-429-11	CARBON 10K 5% 1/4W	
R126	1-215-433-00	METAL 3.3K 1% 1/4W		R192	1-249-427-11	CARBON 6.8K 5% 1/4W	
R127	1-215-425-00	METAL 1.5K 1% 1/4W		R193	1-249-425-11	CARBON 4.7K 5% 1/4W	
R128	1-249-431-11	CARBON 15K 5% 1/4W		R194	1-249-429-11	CARBON 10K 5% 1/4W	
R129	1-249-417-11	CARBON 1K 5% 1/4W		R195	1-249-429-11	CARBON 10K 5% 1/4W	
R130	1-249-421-11	CARBON 2.2K 5% 1/4W		R196	1-249-429-11	CARBON 10K 5% 1/4W	

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• The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R197	1-249-423-11	CARBON	3.3K 5% 1/4W	R515	1-249-421-11	CARBON	2.2K 5% 1/4W
R199	1-249-429-11	CARBON	10K 5% 1/4W	R517	1-249-417-11	CARBON	1K 5% 1/4W
R345	1-249-425-11	CARBON	4.7K 5% 1/4W	R518	1-249-417-11	CARBON	1K 5% 1/4W
R346	1-249-436-11	CARBON	39K 5% 1/4W	R519	1-249-405-11	CARBON	100 5% 1/4W
R347	1-249-435-11	CARBON	33K 5% 1/4W	R520	1-249-389-11	CARBON	4.7 5% 1/4W
R348	1-249-429-11	CARBON	10K 5% 1/4W	R521	1-249-448-11	CARBON	1.2 5% 1/4W
R349	1-249-429-11	CARBON	10K 5% 1/4W	R522	1-216-375-00	METAL OXIDE	3.3 5% 2W
R350	1-249-429-11	CARBON	10K 5% 1/4W	R523	 1-216-345-91	METAL OXIDE	0.47 5% 1W
R351	1-249-429-11	CARBON	10K 5% 1/4W	R524	1-216-373-11	METAL OXIDE	2.2 5% 2W
R352	1-249-425-11	CARBON	4.7K 5% 1/4W	R525	 1-249-448-91	CARBON	1.2 5% 1/4W
R353	1-249-417-11	CARBON	1K 5% 1/4W	R526	 1-216-434-91	METAL OXIDE	1.8K 5% 1W
R354	1-249-414-11	CARBON	560 5% 1/4W	R527	1-216-429-00	METAL OXIDE	270 5% 1W
R355	1-249-414-11	CARBON	560 5% 1/4W	R529	1-249-429-11	CARBON	10K 5% 1/4W
R356	1-249-414-11	CARBON	560 5% 1/4W	R530	1-249-436-11	CARBON	39K 5% 1/4W
R357	1-249-414-11	CARBON	560 5% 1/4W	R534	1-249-435-11	CARBON	33K 5% 1/4W
R358	1-249-417-11	CARBON	1K 5% 1/4W	R535	1-215-373-31	METAL	10 1% 1/4W
R359	1-249-414-11	CARBON	560 5% 1/4W	R536	1-249-425-11	CARBON	4.7K 5% 1/4W
R360	1-249-415-11	CARBON	680 5% 1/4W	R537	1-215-468-00	METAL	91K 1% 1/4W
R361	1-249-417-11	CARBON	1K 5% 1/4W	R538	1-202-838-00	SOLID	100K 10% 1/2W
R363	1-249-405-11	CARBON	100 5% 1/4W	R539	1-202-838-00	SOLID	100K 10% 1/2W
R364	1-249-429-11	CARBON	10K 5% 1/4W	R540	1-202-838-00	SOLID	100K 10% 1/2W
R365	1-249-437-11	CARBON	47K 5% 1/4W	R541	1-202-838-00	SOLID	100K 10% 1/2W
R367	1-249-415-11	CARBON	680 5% 1/4W	R542	 1-202-838-00	METAL	1/4W
R369	1-249-405-11	CARBON	100 5% 1/4W	R543	 1-202-838-00	METAL	1/4W
R431	1-249-425-11	CARBON	4.7K 5% 1/4W	R544	1-249-440-11	CARBON	82K 5% 1/4W
R432	1-249-425-11	CARBON	4.7K 5% 1/4W	R545	1-249-417-11	CARBON	1K 5% 1/4W
R433	1-249-425-11	CARBON	4.7K 5% 1/4W	R546	1-249-417-11	CARBON	1K 5% 1/4W
R434	1-249-426-11	CARBON	5.6K 5% 1/4W	R547	1-202-833-11	SOLID	18K 10% 1/2W
R435	1-249-426-11	CARBON	5.6K 5% 1/4W	R548	1-216-370-11	METAL OXIDE	1.2 5% 2W
R436	1-249-426-11	CARBON	5.6K 5% 1/4W	R549	1-249-425-11	CARBON	4.7K 5% 1/4W
R437	1-249-426-11	CARBON	5.6K 5% 1/4W	R603	1-215-900-11	METAL OXIDE	22K 5% 2W
R438	1-249-423-11	CARBON	3.3K 5% 1/4W	R604	 1-216-444-91	METAL OXIDE	82K 5% 1W
R439	1-249-425-11	CARBON	4.7K 5% 1/4W	R605	1-216-369-00	METAL OXIDE	1 5% 2W
R440	1-249-428-11	CARBON	8.2K 5% 1/4W	R606	1-215-878-00	METAL OXIDE	33K 5% 1W
R441	1-249-428-11	CARBON	8.2K 5% 1/4W	R607	1-216-377-11	METAL OXIDE	4.7 5% 2W
R442	1-249-421-11	CARBON	2.2K 5% 1/4W	R609	1-216-369-00	METAL OXIDE	1 5% 2W
R443	1-249-417-11	CARBON	1K 5% 1/4W	R610	1-215-878-00	METAL OXIDE	33K 5% 1W
R444	1-249-423-11	CARBON	3.3K 5% 1/4W	R611	1-207-645-00	WIREWOUND	0.47 5% 3W
R445	1-249-429-11	CARBON	10K 5% 1/4W	R612	1-215-417-00	METAL	680 1% 1/4W
R446	1-249-429-11	CARBON	10K 5% 1/4W	R613	1-215-477-00	METAL	220K 1% 1/4W
R447	1-249-405-11	CARBON	100 5% 1/4W	R614	1-249-441-11	CARBON	100K 5% 1/4W
R448	1-249-417-11	CARBON	1K 5% 1/4W	R615	1-249-429-11	CARBON	10K 5% 1/4W
R449	1-249-405-11	CARBON	100 5% 1/4W	R616	1-247-895-00	CARBON	470K 5% 1/4W
R450	1-249-391-11	CARBON	6.8 5% 1/4W	R617	1-216-377-11	METAL OXIDE	4.7 5% 2W
R451	1-249-402-11	CARBON	56 5% 1/4W	R619	1-249-421-11	CARBON	2.2K 5% 1/4W
R452	1-249-409-11	CARBON	220 5% 1/4W	R620	1-247-708-11	CARBON	470 5% 1/4W
R455	1-249-417-11	CARBON	1K 5% 1/4W	R621	1-249-429-11	CARBON	10K 5% 1/4W
R456	1-249-405-11	CARBON	100 5% 1/4W	R622	1-247-747-11	CARBON	470 5% 1/2W
R457	1-249-405-11	CARBON	100 5% 1/4W	R623	1-249-405-11	CARBON	100 5% 1/4W
R494	1-249-405-11	CARBON	100 5% 1/4W	R626	1-249-389-11	CARBON	4.7 5% 1/4W
R497	1-249-405-11	CARBON	100 5% 1/4W	R628	1-249-423-11	CARBON	3.3K 5% 1/4W
R501	1-249-405-11	CARBON	100 5% 1/4W	R629	1-249-416-11	CARBON	820 5% 1/4W
R502	1-249-423-11	CARBON	3.3K 5% 1/4W	R630	1-249-416-11	CARBON	820 5% 1/4W
R503	1-249-426-11	CARBON	5.6K 5% 1/4W	R631	 1-202-730-91	SOLID	8.2M 10% 1/2W
R504	 1-215-918-51	METAL OXIDE	1.5K 5% 3W	R632	1-215-892-11	METAL OXIDE	1K 5% 2W
R505	1-216-341-11	METAL OXIDE	0.22 5% 1W	R633	1-216-426-11	METAL OXIDE	82 5% 1W
R506	1-249-401-11	CARBON	47 5% 1/4W	R640	1-216-379-11	METAL OXIDE	6.8 5% 2W
R507	1-249-435-11	CARBON	33K 5% 1/4W	R645	1-216-379-11	METAL OXIDE	6.8 5% 2W
R508	1-249-455-11	CARBON	4.7 5% 1/4W	R646	1-249-393-11	CARBON	10 5% 1/4W
R509	1-249-423-11	CARBON	3.3K 5% 1/4W	R647	1-249-385-11	CARBON	2.2 5% 1/4W
R510	1-215-896-00	METAL OXIDE	4.7K 5% 2W	R648	1-249-393-11	CARBON	10 5% 1/4W
R512	1-215-861-00	METAL OXIDE	47 5% 1W	R649	1-249-409-11	CARBON	220 5% 1/4W
R513	1-249-417-11	CARBON	1K 5% 1/4W	R650	1-247-713-11	CARBON	1K 5% 1/4W
R514	 1-249-415-91	CARBON	680 5% 1/4W				

The components identified by shading and mark  $\Delta$  are critical for safety  
Replace only with part number specified

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V

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R651	1-249-377-11	CARBON	0.47 5% 1/4W F	C1213	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R652	1-249-377-11	CARBON	0.47 5% 1/4W F	C1214	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R653	1-249-377-11	CARBON	0.47 5% 1/4W F	C1215	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R654	1-249-377-11	CARBON	0.47 5% 1/4W F	C1216	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
R655	1-249-377-11	CARBON	0.47 5% 1/4W F	C1217	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R656	1-249-377-11	CARBON	0.47 5% 1/4W F	C1218	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
R657	1-249-377-11	CARBON	0.47 5% 1/4W F	C1219	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
R658	1-249-377-11	CARBON	0.47 5% 1/4W F	C1220	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
R659	1-249-377-11	CARBON	0.47 5% 1/4W F	C1221	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
<VARIABLE RESISTOR>				C1222	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
RV101	1-238-023-11	RES, ADJ, CARBON 470K		C1223	1-124-925-11	ELECT 2.2MF	20% 50V
<SWITCH>				C1224	1-124-925-11	ELECT 2.2MF	20% 50V
S101 $\Delta$	1-571-532-23	SWITCH, TACTIL (POWER)		C1225	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
S102	1-571-532-21	SWITCH, TACTIL		C1226	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
S103	1-571-532-21	SWITCH, TACTIL		C1227	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
S104	1-571-532-21	SWITCH, TACTIL		C1228	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
S105	1-571-532-21	SWITCH, TACTIL		C1229	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
S106	1-571-532-21	SWITCH, TACTIL		C1230	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
<SPARK GAP>				C1231	1-124-902-00	ELECT 0.47MF	20% 50V
SG501	1-519-422-11	GAP, SPARK		C1232	1-136-171-00	FILM 0.33MF	5% 50V
<TRANSFORMER>				C1233	1-126-529-11	ELECT 0.47MF	20% 50V
T501 $\Delta$	1-437-195-13	TRANSFORMER, HORIZONTAL DRIVE		C1234	1-163-237-11	CERAMIC CHIP 27PF	5% 50V
T502 $\Delta$	1-424-545-21	TRANSFORMER, FERRITE (PMT)		C1235	1-124-903-11	ELECT 1MF	20% 50V
T503 $\Delta$	1-439-502-11	TRANSFORMER ASSY FLYBACK (NX-2600A3)		C1236	1-126-101-11	ELECT 100MF	20% 16V
T505	1-460-174-11	TRANSFORMER (HLT)		C1237	1-136-169-00	FILM 0.22MF	5% 50V
T603 $\Delta$	1-450-270-12	TRANSFORMER, CONVERTER (CDT)		C1238	1-124-907-11	ELECT 10MF	20% 50V
T604 $\Delta$	1-450-559-11	TRANSFORMER, CONVERTER (PRT)		C1239	1-136-169-00	FILM 0.22MF	5% 50V
T605 $\Delta$	1-450-560-11	TRANSFORMER, FERRITE (SBT)		C1240	1-163-237-11	CERAMIC CHIP 27PF	5% 50V
<TUNER>				C1241	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
TU101 $\Delta$	1-465-371-11	TUNER, ET (BTP-RA401)		C1242	1-163-114-00	CERAMIC CHIP 75PF	5% 50V
<CRYSTAL>				C1243	1-126-101-11	ELECT 100MF	20% 16V
X101	1-577-082-11	VIBRATOR, CERAMIC		C1244	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
*****				C1245	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
*A-1347-053-A V BOARD, COMPLETE				C1248	1-124-477-11	ELECT 47MF	20% 16V
*****				C1250	1-124-477-11	ELECT 47MF	20% 16V
<CAPACITOR>				C1251	1-126-233-11	ELECT 22MF	20% 25V
C1201	1-124-903-11	ELECT 1MF	20% 50V	C1252	1-124-477-11	ELECT 47MF	20% 16V
C1202	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C1253	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C1203	1-124-903-11	ELECT 1MF	20% 50V	C1254	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C1204	1-124-903-11	ELECT 1MF	20% 50V	C1255	1-124-477-11	ELECT 47MF	20% 16V
C1205	1-124-927-11	ELECT 4.7MF	20% 50V	C1256	1-124-477-11	ELECT 47MF	20% 16V
C1206	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C1257	1-124-477-11	ELECT 47MF	20% 16V
C1207	1-124-927-11	ELECT 4.7MF	20% 50V	C1258	1-124-477-11	ELECT 47MF	20% 16V
C1208	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C1259	1-126-101-11	ELECT 100MF	20% 16V
C1209	1-126-101-11	ELECT 100MF	20% 16V	C1260	1-136-173-00	FILM 0.47MF	5% 50V
C1210	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C1261	1-124-477-11	ELECT 47MF	20% 16V
C1211	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	C1262	1-124-477-11	ELECT 47MF	20% 16V
C1212	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	C1263	1-124-477-11	ELECT 47MF	20% 16V
				C1264	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C1265	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
				C1266	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C1267	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C1268	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C1269	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C1270	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C1271	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C1272	1-124-477-11	ELECT 47MF	20% 16V
				C1273	1-124-477-11	ELECT 47MF	20% 16V
				C1275	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
				C1276	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C1277	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C1278	1-136-165-00	FILM 0.1MF	5% 50V
				C1279	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V

V

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C1280	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R1207	1-216-027-00	METAL GLAZE 120 5%	1/10W
C1281	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R1208	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
C1282	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	R1209	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
C1283	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R1210	1-216-049-00	METAL GLAZE 1K 5%	1/10W
C1287	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R1211	1-216-047-00	METAL GLAZE 820 5%	1/10W
C1288	1-126-103-11	ELECT 470MF	20% 16V	R1212	1-216-121-00	METAL GLAZE 1M 5%	1/10W
C1290	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	R1213	1-216-049-00	METAL GLAZE 1K 5%	1/10W
<DIODE>				R1214	1-216-121-00	METAL GLAZE 1M 5%	1/10W
D1202	8-719-404-46	DIODE MA110		R1215	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
<FILTER>				R1216	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
FL1200	1-239-140-11	FILTER, LOW PASS		R1217	1-216-043-00	METAL GLAZE 560 5%	1/10W
<IC>				R1218	1-216-043-00	METAL GLAZE 560 5%	1/10W
IC1200	8-759-517-74	IC MB81461-12-PSZ-G-BF2		R1219	1-216-049-00	METAL GLAZE 1K 5%	1/10W
IC1201	8-759-512-86	IC MB86140P-SH		R1220	1-216-049-00	METAL GLAZE 1K 5%	1/10W
IC1202	8-759-983-44	IC MB40176P		R1221	1-216-115-00	METAL GLAZE 560K 5%	1/10W
IC1203	8-759-512-85	IC MB3511P-SH		R1222	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
IC1204	8-759-711-23	IC NJM2234L		R1223	1-216-049-00	METAL GLAZE 1K 5%	1/10W
IC1205	8-759-711-23	IC NJM2234L		R1224	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
<COIL>				R1225	1-216-049-00	METAL GLAZE 1K 5%	1/10W
L1200	1-408-421-00	INDUCTOR 100UH		R1226	1-216-043-00	METAL GLAZE 560 5%	1/10W
L1201	1-408-419-00	INDUCTOR 68UH		R1227	1-216-043-00	METAL GLAZE 560 5%	1/10W
L1202	1-408-421-00	INDUCTOR 100UH		R1228	1-216-043-00	METAL GLAZE 560 5%	1/10W
L1203	1-408-419-00	INDUCTOR 68UH		R1229	1-216-043-00	METAL GLAZE 560 5%	1/10W
L1204	1-408-413-00	INDUCTOR 22UH		R1230	1-216-049-00	METAL GLAZE 1K 5%	1/10W
L1205	1-408-421-00	INDUCTOR 100UH		R1231	1-216-045-00	METAL GLAZE 680 5%	1/10W
<TRANSISTOR>				R1232	1-216-121-00	METAL GLAZE 1M 5%	1/10W
Q1201	8-729-216-22	TRANSISTOR 2SA1162-G		R1233	1-216-115-00	METAL GLAZE 560K 5%	1/10W
Q1202	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1234	1-216-047-00	METAL GLAZE 820 5%	1/10W
Q1203	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1235	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q1204	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1236	1-216-043-00	METAL GLAZE 560 5%	1/10W
Q1205	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1237	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q1206	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1238	1-216-079-00	METAL GLAZE 18K 5%	1/10W
Q1207	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1239	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q1208	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1240	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q1209	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1241	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q1210	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1242	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q1211	8-729-216-22	TRANSISTOR 2SA1162-G		R1243	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q1212	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1245	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q1213	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1246	1-216-049-00	METAL GLAZE 1K 5%	1/10W
<RESISTOR>				R1247	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR1201	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1248	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR1202	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1249	1-216-077-00	METAL GLAZE 15K 5%	1/10W
JR1205	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1250	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR1208	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1251	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR1210	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1252	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR1211	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1253	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R1201	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R1254	1-216-025-00	METAL GLAZE 100 5%	1/10W
R1203	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R1255	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1204	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1256	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1205	1-216-025-00	METAL GLAZE 100 5%	1/10W	R1257	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R1206	1-216-047-00	METAL GLAZE 820 5%	1/10W	R1258	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R1259	1-216-025-00	METAL GLAZE 100 5%	1/10W
				R1260	1-216-043-00	METAL GLAZE 560 5%	1/10W
				R1261	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R1262	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R1263	1-216-025-00	METAL GLAZE 100 5%	1/10W
				R1264	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R1265	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R1266	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R1267	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
				R1268	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R1269	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R1272	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R1273	1-216-033-00	METAL GLAZE 220 5%	1/10W

The components identified by shading and mark  $\Delta$  are critical for safety  
Replace only with part number specified.

KV-32TW76  
RM-Y102

V

W

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R1274	1-216-033-00	METAL GLAZE 220 5%	1/10W	Q2762	8-729-119-76	TRANSISTOR 2SA1175-HFE	
R1275	1-216-033-00	METAL GLAZE 220 5%	1/10W	Q2763	8-729-208-39	TRANSISTOR 2SA1306A-Y	
R1276	1-216-033-00	METAL GLAZE 220 5%	1/10W	Q2764	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R1277	1-216-025-00	METAL GLAZE 100 5%	1/10W	Q2765	8-729-208-72	TRANSISTOR 2SC3298B-Y	
R1278	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W				
R1279	1-216-049-00	METAL GLAZE 1K 5%	1/10W	Q2766	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R1280	1-216-049-00	METAL GLAZE 1K 5%	1/10W	Q2767	8-729-140-96	TRANSISTOR 2SD774-34	
				Q2768	8-729-119-78	TRANSISTOR 2SC2785-HFE	
<CONNECTOR>				<RESISTOR>			
V11	*1-564-514-11	PLUG, CONNECTOR 11P		R2751	1-249-429-11	CARBON 10K 5%	1/4W
V20	*1-564-513-11	PLUG, CONNECTOR 10P		R2752	1-249-432-11	CARBON 18K 5%	1/4W
				R2753	1-249-437-11	CARBON 47K 5%	1/4W
				R2761	1-249-397-11	CARBON 22 5%	1/4W F
				R2762	1-249-409-11	CARBON 220 5%	1/4W
<CRYSTAL>							
X1201	1-527-722-00	OSCILLATOR, CRYSTAL		R2763	1-249-420-11	CARBON 1.8K 5%	1/4W
X1202	1-527-722-00	OSCILLATOR, CRYSTAL		R2764	1-247-736-11	CARBON 56 5%	1/2W F
				R2765	1-249-414-11	CARBON 560 5%	1/4W F
				R2766	1-249-418-11	CARBON 1.2K 5%	1/4W
				R2768	1-249-420-11	CARBON 1.8K 5%	1/4W
*****							
	*A-1371-749-A	W BOARD, COMPLETE		R2769	1-249-385-11	CARBON 2.2 5%	1/4W F
		*****		R2770	1-249-435-11	CARBON 33K 5%	1/4W
	*4-341-751-01	EYELET (EY2)		R2771	1-249-427-11	CARBON 6.8K 5%	1/4W
				R2774	1-215-886-11	METAL OXIDE 100 5%	2W F
				R2775	1-249-417-11	CARBON 1K 5%	1/4W F
<CAPACITOR>							
C2753	1-124-925-11	ELECT 2.2MF 20%	50V	R2776	1-249-432-11	CARBON 18K 5%	1/4W
C2754	1-164-079-11	CERAMIC 330PF 10%	50V	R2777	1-249-438-11	CARBON 56K 5%	1/4W
C2761	1-161-830-00	CERAMIC 0.0047MF	500V	R2778	1-249-429-11	CARBON 10K 5%	1/4W
C2762	1-164-054-11	CERAMIC 22PF 5%	50V	R2779	1-249-414-11	CARBON 560 5%	1/4W
C2763	1-123-935-00	ELECT 33MF 20%	160V	R2780	1-249-419-11	CARBON 1.5K 5%	1/4W
C2764	1-124-120-11	ELECT 220MF 20%	16V	R2781	1-249-410-11	CARBON 270 5%	1/4W
C2767	1-102-244-00	CERAMIC 220PF 10%	500V	R2782	1-249-385-11	CARBON 2.2 5%	1/4W F
C2768	1-106-383-00	MYLAR 0.047MF	200V	R2783	1-249-441-11	CARBON 100K 5%	1/4W
C2769	1-124-799-11	ELECT 2.2MF 20%	160V	R2784	1-249-405-11	CARBON 100 5%	1/4W
C2770	1-106-391-12	MYLAR 0.1MF 10%	200V	R2785	1-249-402-11	CARBON 56 5%	1/4W F
C2771	1-124-907-11	ELECT 10MF 20%	50V	R2786	1-249-436-11	CARBON 39K 5%	1/4W
C2772	1-126-101-11	ELECT 100MF 20%	16V	R2787	1-249-429-11	CARBON 10K 5%	1/4W
C2773	1-106-383-00	MYLAR 0.047MF	200V	R2788	1-249-417-11	CARBON 1K 5%	1/4W
C2774	1-164-064-11	CERAMIC 56PF 5%	50V	R2789	1-249-415-11	CARBON 680 5%	1/4W
C2775	1-124-120-11	ELECT 220MF 20%	16V	R2790	1-216-451-11	METAL OXIDE 120 5%	2W F
C2776	1-124-907-11	ELECT 10MF 20%	50V	R2791	1-249-412-11	CARBON 390 5%	1/4W
C2778	1-164-085-11	CERAMIC 0.001MF 10%	50V	R2792	1-216-450-00	METAL OXIDE 82 5%	2W F
C2779	1-164-085-11	CERAMIC 0.001MF 10%	50V				
C2780	1-124-907-11	ELECT 10MF 20%	50V				
<DIODE>				<CONNECTOR>			
D2761	8-719-911-19	DIODE 1SS119		W2	*1-564-507-11	PLUG, CONNECTOR 4P	
D2763	8-719-911-19	DIODE 1SS119		W6	*1-564-508-11	PLUG, CONNECTOR 5P	
D2764	8-719-911-19	DIODE 1SS119					
D2765	8-719-911-19	DIODE 1SS119					
D2766	8-719-911-19	DIODE 1SS119					
D2767	8-719-110-90	DIODE RD39ES-B4					
D2768	8-719-110-90	DIODE RD39ES-B4					
<COIL>							
L2762	1-408-418-00	INDUCTOR 56UH					
L2763	1-408-417-00	INDUCTOR 47UH					
<TRANSISTOR>							
Q2761	8-729-119-78	TRANSISTOR 2SC2785-HFE					

MISCELLANEOUS  
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$\Delta$  1-426-356-11 COIL, DEMAGNETIZATION  
 $\Delta$  1-451-315-11 DEFLECTION YOKE (Y34FXA)  
1-452-032-00 MAGNET, DISK; 10MM  $\phi$   
1-452-094-00 MAGNET, ROTATABLE DISK; 15MM  $\phi$   
 $\Delta$  1-452-579-21 NECK ASSY, PICTURE TUBE (NA322)  
  
1-544-556-11 SPEAKER (10CM)  
1-573-657-11 PLUG, F-PIN  
 $\Delta$  1-590-492-21 CORD, POWER (WITH CONNECTOR)

V901  $\Delta$  8-733-723-05 PICTURE TUBE (A80JYV50X)

ACCESSORIES AND PACKING MATERIALS

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PART NO.	DESCRIPTION	REMARK
X-4029-793-1	DOOR ASSY, GLASS	
*3-704-319-01	BAG (STANDARD), PROTECTION	
*4-030-895-01	JOINT	
*4-031-242-01	PLATE	
*4-031-246-01	CUSHION (UPPER) (ASSY)	
*4-031-247-01	CUSHION (LOWER) (ASSY)	
*4-031-266-01	TRAY	
4-032-388-21	MANUAL, INSTRUCTION	
4-032-388-41	MANUAL, INSTRUCTION	
*4-031-267-01	INDIVIDUAL CARTON (FOR VTM)	
*4-035-686-01	INDIVIDUAL CARTON (FOR SDP)	
*4-386-906-01	SHEET, PROTECTION	

REMOTE COMMANDER

1-465-773-11	REMOTE COMMANDER (RM-Y102)
9-998-985-01	COVER, BATTERY (FOR RM-Y102)